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LEGISLATIVE HISTORY

Public Law 507--81st Congress

Chapter 171--2d Session

S. 247

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NATIONAL SCIENCE FOUNDATION ACT OF 1950. Creates a National Science Foundation as an independent executive agency with a National Science Board of 24 members and a Director, the board to be appointed by the President with the advice and consent of the Senate, and the Director, ex officio. Requires the Board members to be eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs. Requests the President, in selecting members, to consider recommendations from various organizations, including the Association of Land Grant Colleges and Universities. The Board is authorized to appoint from among its members, an Executive Committee and if established it shall consist of the Director as a non-voting, ex officio member and nine other members elected by the Board from among its members. Provides for a Director of the Foundation to be appointed by the President and confirmed by the Senate, who would be an ex officio member of the Board and chief executive officer of the Foundation. He may appoint, with the approval of the Board, a Deputy Director.

Directs the Foundation (1) to develop a national policy for promoting basic research and education in the sciences; (2) to make contracts, including grants and loans to initiate and support basic research; (3) at the request of the Secretary of Defense, to initiate and support research for national defense (4) to award scholarships and fellowships; (5) to foster interchange of information among scientists in the U. S. and foreign countries; (6) to evaluate Government research programs and correlate the Foundation's program with public and private programs; (7) to establish such special commissions as the Board may from time to time deems advisable; and (8) to maintain a register of scientific and technical personnel. Unless the Board provides otherwise, there would be within the Foundation the following divisions: (1) Medical Research; (2) Mathematical, Physical, and Engineering Sciences; (3) Biological Sciences; and (4) Scientific personnel and Education (concerned with programs relating to granting scholarships and fellowships in the mathematical, physical, medical, biological, engineering and other sciences). Requires a divisional committee of not less than 5 members who may or may not be members of the Board, for each division of the Foundation, to advise the Board and the Director on the program for that division. Provides that if special commissions are appointed to make comprehensive surveys of public and private research in particular fields, they shall consist of 11 members, 6 scientists and 5 other than scientists.

Authorizes appropriations of \$500,000 for fiscal 1951, and \$15,000,000 annually thereafter; provides that these appropriations shall remain available for such periods as specified in the appropriating acts. Authorizes the Foundation to enter into contracts or agreements with Government agencies and others for basic scientific research and to make advance payments therefor. Permits persons holding other offices in the Executive Branch to be members of the divisional committees and special commissions but prohibits them from receiving additional pay for such services. Provides that the Foundation use existing agencies when feasible. Provides that funds available to any department or agency for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with approval of the department or agency head, to the Foundation. Provides for transfer of the National Roster of Scientific and Specialized Personnel from USES to the Foundation.

INDEX AND SUMMARY OF HISTORY ON S. 247

January 3, 1949 H. R. 12 was introduced by Rep. Priest and was referred to the House Committee on Interstate and Foreign Commerce. Print of the bill as introduced.

H. R. 311 was introduced by Rep. Wolverton and was referred to the House Committee on Interstate and Foreign Commerce. Print of the bill as introduced.

H. R. 359 was introduced by Rep. Celler and was referred to the House Committee on Interstate and Foreign Commerce. Print of the bill as introduced.

January 6, 1949 S. 247 was introduced by Senator Thomas and others and was referred to the Senate Committee on Labor and Public Welfare. Print of the bill as introduced.

February 3, 1949 H. R. 2308 was introduced by Rep. Mills and was referred to the House Committee on Interstate and Foreign Commerce. Print of the bill as introduced.

March 3, 1949 S. 247 was reported without amendment. Senate Report 90. Print of the bill as reported.

March 18, 1949 Senate debated and passed S. 247 without amendment.

March 22, 1949 Print of S. 247 as referred to the House Committee on Interstate and Foreign Commerce.

March 31, 1949 Hearings: House, H. R. 12, S. 247, and H. R. 359.

May 24, 1949 H. R. 4846 was introduced by Rep. Priest and was referred to the House Committee on Interstate and Foreign Commerce. Print of the bill as introduced.

June 14, 1949 H. R. 4846 was reported with amendments. House Report 796. Print of the bill as reported.

February 27, 1950 House began debate on H. R. 4846. Agreed to the Committee amendments and to an amendment by Rep. Heselton to direct the Foundation to evaluate scientific research programs undertaken by Government agencies and to correlate all research groups.

Extension of remarks of Rep. Mitchell.

February 28, 1950 House debate continued. Agreed to various amendments: To limit the Foundation appropriation for 1951 to \$500,000 (pp.2547-55); to require favorable FBI reports on scholarship students and employees of the Foundation (pp. 2559-60); and rejected amendment to require that the Foundation sponsor only "basic" research (pp. 2555-9).

March 1, 1950 House debate concluded. Passed S. 247 with language of H. R. 4846. Before H. R. 4846 was passed, by a vote of 247-125, the following amendments were agreed to:

By Rep. Fulton, to require approval of the Secretary of Defense of regulations and procedures for security classification of information or property, and to require approval of the Secretary of State for cooperation in international research (pp. 2625-6).

By Rep. Case, to require approval of the Sec. of Defense for contracts and other arrangements for research relating to national defense (p. 2627).

By Rep. Flood, to require FBI clearance of all foreign nationals participating in the activities of the Foundation (p. 2632).

March 27, 1950

Senate conferees appointed.

Remarks of Rep. Crosser.

March 28, 1950

House conferees appointed.

Extension of remarks of Rep. O'Hara.

April 26, 1950

House received the conference report. House Report 1958.

April 27, 1950

House agreed to the conference report.

April 28, 1950

Senate agreed to the conference report.

Remarks of Rep. Biemiller.

May 10, 1950

Approved. Public Law 507.

81ST CONGRESS
1ST SESSION

H. R. 12

IN THE HOUSE OF REPRESENTATIVES

JANUARY 3, 1949

Mr. PRIEST introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Foun-
4 dation Act of 1949".

5 ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

6 SEC. 2. There is hereby established in the executive
7 branch of the Government an independent agency to be
8 known as the National Science Foundation (hereinafter
9 referred to as the "Foundation").

MEMBERSHIP OF FOUNDATION

SEC. 3. (a) The Foundation shall have twenty-four members to be appointed by the President, by and with the advice and consent of the Senate. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, Association of Land Grant Colleges and Universities, the National Association of State Universities, Association of American Colleges, or by other scientific or educational organizations.

(b) The term of office of each member of the Foundation shall be six years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this Act shall expire, as designated

1 by the President at the time of appointment, eight at the
2 end of two years, eight at the end of four years, eight at
3 the end of six years, after the date of enactment of this
4 Act. Any person who has been a member of the Founda-
5 tion for twelve consecutive years shall thereafter be ineligible
6 for appointment during the two-year period following the
7 expiration of such twelfth year.

8 (c) The President shall call the first meeting of the
9 members of the Foundation, at which the first order of
10 business shall be the election of a chairman and a vice
11 chairman.

12 POWERS AND DUTIES OF THE FOUNDATION

13 SEC. 4. (a) The Foundation is authorized and directed—

14 (1) to develop and encourage the pursuit of a na-
15 tional policy for the promotion of basic research and edu-
16 cation in the sciences;

17 (2) to initiate and support basic scientific research
18 in the mathematical, physical, medical, biological, engi-
19 neering, and other sciences, by making contracts or other
20 arrangements (including grants, loans, and other forms
21 of assistance) for the conduct of such basic scientific
22 research and to appraise the impact of research upon
23 industrial development and upon the general welfare;

24 (3) after consultation with the Secretary of De-
25 fense, to initiate and support scientific research in con-

1 nection with matters relating to the national defense
2 by making contracts or other arrangements (including
3 grants, loans, and other forms of assistance) for the
4 conduct of such scientific research;

5 (4) to grant scholarships and graduate fellowships
6 in the mathematical, physical, medical, biological, engi-
7 neering, and other sciences;

8 (5) to foster the interchange of scientific informa-
9 tion among scientists in the United States and foreign
10 countries;

11 (6) to correlate the Foundation's scientific research
12 programs with those undertaken by individuals and by
13 public and private research groups; and

14 (7) to establish for such period of time as it may
15 determine a special commission on cancer, on heart and
16 cardiovascular diseases, on poliomyelitis and other de-
17 generative diseases, and such other special commissions
18 as the Foundation may from time to time deem necessary
19 for the purposes of this Act.

20 (b) In exercising the authority and discharging the
21 functions referred to in subsection (a) of this section, it
22 shall be one of the objectives of the Foundation to strengthen
23 basic research and education in the sciences, including inde-
24 pendent research by individuals, throughout the United

1 States, including its Territories and possessions, and to avoid
2 undue concentration of such research and education.

3 (c) The members of the Foundation shall meet annually
4 on the first Monday in December and at such other times as
5 the Chairman may determine, but he shall also call a meeting
6 whenever one-third of the members so request in writing. A
7 majority of the members of the Foundation shall constitute a
8 quorum. Each member shall be given notice, by registered
9 mail mailed to his last-known address of record not less than
10 fifteen days prior to any meeting, of the call of such meeting.

11 (d) The first Chairman and Vice Chairman of the
12 Foundation shall be elected by the Foundation to serve until
13 the first Monday in December next succeeding the date of
14 election at which time a Chairman and Vice Chairman shall
15 be elected for a term of two years. Thereafter such election
16 shall take place at the annual meeting occurring at the end of
17 each such term. The Vice Chairman shall perform the duties
18 of the Chairman in his absence. In case a vacancy occurs in
19 the chairmanship or vice chairmanship, the Foundation shall
20 elect a member to fill such vacancy.

21 (e) The Foundation shall render an annual report to
22 the President for submission on or before the 15th day
23 of January to the Congress, summarizing the activities of
24 the Foundation and making such recommendations as it

1 may deem appropriate. Such report shall include in full
2 the report of the Executive Committee to the Foundation
3 provided for in section 5 (d) .

4 CREATION AND POWERS AND DUTIES OF THE EXECUTIVE
5 COMMITTEE

6 SEC. 5. (a) There is hereby established an Executive
7 Committee of the Foundation which shall consist of the Direc-
8 tor ex officio as provided for in section 6 of this Act,
9 and nine other members elected by the members of the
10 Foundation from among their number. The term of office
11 of each member of the Executive Committee shall be two
12 years except that (1) any member elected to fill a vacancy
13 occurring prior to the expiration of the term for which his
14 predecessor was elected shall be elected for the remainder of
15 such term; and (2) the term of office of four of the members
16 first elected after the date of enactment of this Act shall be
17 one year. Any person who has been a member of the Execu-
18 tive Committee for six consecutive years shall thereafter be
19 ineligible for election during the two-year period following
20 the expiration of such sixth year. The Executive Committee
21 shall implement the policies developed by the Foundation
22 under this Act. The membership of the Executive Com-
23 mittee shall so far as practicable be representative of diverse
24 interests and shall be so chosen as to provide representation,
25 so far as practicable, for all areas of the Nation.

1 (b) The Executive Committee shall meet at the call of
2 its chairman or at such times as may be fixed by itself, but
3 not less than six times each year.

4 (c) A majority of the voting members of the Executive
5 Committee shall constitute a quorum.

6 (d) The Executive Committee shall render an annual
7 report to the Foundation, and such other reports as it may
8 deem necessary, summarizing the activities of the Executive
9 Committee, making such recommendations as it may deem
10 appropriate, and setting forth the recommendations of the
11 divisional committees and special commissions. Minority
12 views and recommendations, if any, of members of the
13 Executive Committee, the divisional committees, and special
14 commissions shall be included in such reports.

15 DIRECTOR OF FOUNDATION

16 SEC. 6. (a) There shall be a Director of the Founda-
17 tion who shall be appointed by the President by and with
18 the advice and consent of the Senate, after receiving recom-
19 mendations from the Foundation. He shall serve as a non-
20 voting ex officio member of the Foundation and also as the
21 nonvoting Chairman of the Executive Committee. In addi-
22 tion thereto he shall be the chief executive officer of the
23 Foundation. The Director shall receive compensation at the
24 rate of \$15,000 per annum and shall serve for a term of six
25 years unless sooner removed by the President.

1 (b) The Director shall, in accordance with such direc-
2 tives as the Executive Committee shall from time to time pre-
3 scribe, exercise the powers set forth in this Act within the
4 policies developed by the Foundation: *Provided*, That the
5 authority granted to the Foundation by paragraph (c) of
6 section 11 shall be exercised by the Director with the
7 approval of the Executive Committee.

8 DIVISIONS WITHIN THE FOUNDATION

9 SEC. 7. (a) Until otherwise provided by the Founda-
10 tion there shall be within the Foundation the following
11 divisions:

12 (1) A Division of Medical Research;

13 (2) A Division of Mathematical, Physical, and En-
14 gineering Sciences;

15 (3) A Division of Biological Sciences; and

16 (4) A Division of Scientific Personnel and Education,
17 which shall be concerned with programs of the Foundation
18 relating to the granting of scholarships and graduate fellow-
19 ships in the mathematical, physical, medical, biological, en-
20 gineering, and other sciences.

21 (b) There shall also be within the Foundation such
22 other divisions as the Foundation may, from time to time,
23 deem necessary.

DIVISIONAL COMMITTEES

SEC. 8. (a) There shall be a committee for each division of the Foundation.

(b) Each divisional committee shall be appointed by the Executive Committee and shall consist of not less than five persons who may be members or nonmembers of the Foundation.

(c) The terms of members of each divisional committee shall be two years. Each divisional committee shall annually elect its own chairman from among its own members, and shall prescribe its own rules of procedure, subject to such restrictions as may be prescribed by the Executive Committee.

(d) Each divisional committee shall make recommendations to, and advise and consult with, the Executive Committee and the Director with respect to matters relating to the program of its division.

SPECIAL COMMISSIONS

SEC. 9. (a) Each special commission established by the Foundation pursuant to section 4 (a) (7) shall consist of eleven members appointed by the Executive Committee, six of whom shall be eminent scientists and five of whom

1 shall be persons other than scientists. Each special com-
2 mission shall choose its own chairman and vice chairman.

3 (b) It shall be the duty of each such special commis-
4 sion to make a comprehensive survey of research, both
5 public and private, being carried on in its field, and to
6 formulate and recommend to the Executive Committee at
7 the earliest practicable date an over-all research program
8 in its field.

9 SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER
10 OF SCIENTIFIC PERSONNEL

11 SEC. 10. (a) The Director, with the approval of the
12 Foundation, is authorized to award, within the limits of funds
13 made available pursuant to section 14, scholarships and
14 graduate fellowships for scientific study or scientific work in
15 the mathematical, physical, medical, biological, engineering,
16 and other sciences at accredited nonprofit American or non-
17 profit foreign institutions of higher education, selected by
18 the recipient of such aid, for stated periods of time. Persons
19 shall be selected for such scholarships and fellowships from
20 among citizens of the United States, and such selections shall
21 be made solely on the basis of ability; but in any case in
22 which two or more applicants for scholarships or fellowships,
23 as the case may be, are deemed by the Director and
24 the Foundation to be possessed of substantially equal
25 ability, and there are not sufficient scholarships or fellowships,

1 as the case may be, available to grant one to each of such
2 applicants, the available scholarship or scholarships or
3 fellowship or fellowships shall be awarded to the applicants
4 in such manner as will tend to result in a wide distribution
5 of scholarships and fellowships among the States, Territories,
6 possessions, and the District of Columbia.

7 (b) The Foundation shall maintain a register of scientific
8 and technical personnel and in other ways provide a central
9 clearinghouse for information covering all scientific and
10 technical personnel in the United States and its possessions.

11 AUTHORITY OF FOUNDATION

12 SEC. 11. The Foundation is empowered to do all
13 things necessary to carry out the provisions of this Act,
14 and without being limited thereby, the Foundation is
15 specifically authorized—

16 (a) to prescribe such rules and regulations as
17 it deems necessary governing the manner of its opera-
18 tions and its organization and personnel;

19 (b) to make such expenditures as may be necessary
20 for administering the provisions of this Act;

21 (c) to enter into contracts or other arrangements,
22 or modifications thereof, for the carrying on, by organ-
23 izations or individuals in the United States and foreign
24 countries, including other government agencies of the
25 United States and of foreign countries (without legal

1 consideration, without performance or other bonds, and
2 without regard to section 3709 of the Revised Statutes),
3 of such basic scientific research activities and scientific
4 research activities in connection with the matters relat-
5 ing to the national defense as the Foundation deems
6 necessary to carry out the purposes of this Act;

7 (d) to make advance, progress, and other pay-
8 ments which relate to scientific research without regard
9 to the provisions of section 3648 of the Revised Statutes
10 (31 U. S. C., sec. 529) ;

11 (e) to acquire by purchase, lease, loan, or gift,
12 and to hold and dispose of by sale, lease, or loan, real
13 and personal property of all kinds necessary for, or
14 resulting from, scientific research;

15 (f) to receive and use funds donated by others,
16 if such funds are donated, without restriction, other than
17 that they be used in furtherance of one or more of the
18 general purpose of the Foundation;

19 (g) to publish or arrange for the publication of
20 scientific and technical information so as to further
21 the full dissemination of information of scientific value
22 consistent with the national interest, without regard to
23 the provisions of section 87 of the Act of January 12,
24 1895 (28 Stat. 622), and section 11 of the Act of
25 March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111) ;

(h) to accept and utilize the services of voluntary and uncompensated personnel and to pay the actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10 of such personnel incurred in the course of such services) ; and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 12. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation, by any contractual or other arrangement, to alter or modify any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall

1 acquire, retain, or transfer any rights, under the patent laws
2 of the United States or otherwise, in any invention which
3 he may make or produce in connection with performing his
4 assigned activities and which is directly related to the subject
5 matter thereof: *Provided, however,* That this subsection
6 shall not be construed to prevent any officer or employee of
7 the Foundation from executing any application for patent
8 on any such invention for the purpose of assigning the same
9 to the Government or its nominee in accordance with such
10 rules and regulations as the Director may establish.

11 INTERNATIONAL COOPERATION

12 SEC. 13. (a) The Foundation is hereby authorized to
13 cooperate in any international scientific research activities
14 consistent with the purposes of this Act and to expend for
15 such international scientific research activities such sums
16 within the limit of appropriated funds as the Foundation may
17 deem desirable.

18 (b) The Director, with the approval of the Executive
19 Committee, may defray the expenses of representatives of
20 Government agencies and other organizations and of indi-
21 vidual scientists to accredited international scientific con-
22 gresses and meetings whenever he deems it necessary in
23 the promotion of the objectives of this Act.

24 APPROPRIATIONS

25 SEC. 14. (a) To enable the Foundation to carry out

1 its powers and duties, there is hereby authorized to be
2 appropriated annually to the Foundation, out of any money
3 in the Treasury not otherwise appropriated, such sums as
4 may be necessary to carry out the provisions of this Act.

5 (b) The funds hereafter appropriated to the Founda-
6 tion, as herein authorized, shall, if obligated during the fiscal
7 year for which appropriated, remain available for expendi-
8 ture for four years following the expiration of the fiscal year
9 for which appropriated. After such four-year period, the
10 unexpended balances of appropriations shall be carried to
11 the surplus fund and covered into the Treasury.

12 GENERAL PROVISIONS

13 SEC. 15. (a) The Director shall, in accordance with
14 such general directives as the Executive Committee shall
15 from time to time prescribe, appoint and fix the compensa-
16 tion of such personnel as may be necessary to carry out the
17 provisions of this Act. Such appointments shall be made
18 and such compensation shall be fixed in accordance with
19 the provisions of the civil-service laws and regulations and
20 the Classification Act of 1923, as amended: *Provided*, That
21 the Director may, in accordance with such general directives
22 as the Executive Committee shall from time to time prescribe,
23 employ such technical and professional personnel and fix
24 their compensation, without regard to such laws, as he may
25 deem necessary for the discharge of the responsibilities of

1 the Foundation under this Act. The Deputy Director
2 hereinafter provided for, and the members of the divisional
3 committees, and special commissions, shall be appointed with-
4 out regard to the civil-service laws or regulations. Neither
5 the Director nor the Deputy Director shall engage in any
6 other business, vocation, or employment than that of serving
7 as such Director or Deputy Director, as the case may be;
8 nor shall the Director or Deputy Director, except with the
9 approval of the Executive Committee, hold any office in, or
10 act in any capacity for, any organization, agency, or institu-
11 tion with which the Foundation makes any contract or other
12 arrangement under this Act.

13 (b) The Director may appoint, with the approval of
14 the Executive Committee, a Deputy Director who shall per-
15 form such functions as the Director, with the approval of
16 the Executive Committee, may prescribe and shall be Acting
17 Director during the absence or disability of the Director or
18 in the event of a vacancy in the Office of the Director, and
19 who shall receive compensation at a rate not to exceed
20 \$12,000 per annum.

21 (c) The Foundation shall not, itself, operate any labora-
22 tories or pilot plants.

23 (d) The members of the Foundation, and the members
24 of each divisional committee, or special commission, shall
25 receive compensation at the rate of \$25 for each day engaged

1 in the business of the Foundation pursuant to authorization
2 of the Foundation, and shall be allowed actual and necessary
3 traveling and subsistence expenses (including, in lieu of
4 subsistence, per diem allowances at a rate not in excess of
5 \$10) when engaged, away from home, in the duties of their
6 offices.

7 (e) Persons holding other offices in the executive branch
8 of the Federal Government may serve as members of the
9 divisional committees, and special commissions, but they shall
10 not receive remuneration for their services as such members
11 during any period for which they receive compensation for
12 their services in such other offices.

13 (f) Service of an individual as a member of the Founda-
14 tion, of a divisional committee, or of a special commission
15 shall not be considered as service bringing him within the
16 provisions of section 109 or section 113 of the Criminal
17 Code (U. S. C., 1940 edition, title 18, secs. 198 and 203)
18 or section 19 (e) of the Contract Settlement Act of
19 1944, unless the act of such individual, which by such
20 section is made unlawful when performed by an individual
21 referred to in such section, is with respect to any particular
22 matter which directly involves the Foundation or in which
23 the Foundation is directly interested.

24 (g) In making contracts or other arrangements for
25 scientific research, the Foundation shall utilize appropria-

1 tions available therefor in such manner as will in its discre-
2 tion best realize the objectives of (1) having the work
3 performed by organizations, agencies, and institutions, or
4 individuals in the United States or foreign countries, includ-
5 ing Government agencies of the United States and of foreign
6 countries, qualified by training and experience to achieve the
7 results desired, (2) strengthening the research staff of organ-
8 izations, particularly nonprofit organizations, in the States
9 and Territories and the District of Columbia, (3) aiding
10 institutions, agencies, or organizations which, if aided, will
11 advance basic research, and (4) encouraging independent
12 basic research by individuals.

13 (h) The activities of the Foundation shall be con-
14 strued as supplementing and not superseding, curtailing, or
15 limiting any of the functions or activities of other Govern-
16 ment agencies authorized to engage in scientific research or
17 development.

18 (i) Funds available to any department or agency of
19 the Government for scientific or technical research, or the
20 provision of facilities therefor, shall be available for transfer,
21 with the approval of the head of the department or agency
22 involved, in whole or in part, to the Foundation for such use
23 as is consistent with the purposes for which such funds were
24 provided, and funds so transferred shall be expendable by
25 the Foundation for the purposes for which the transfer was

1 made, and, until such time as an appropriation is made avail-
2 able directly to the Foundation, for general administrative
3 expenses of the Foundation without regard to limitations
4 otherwise applicable to such funds.

5 (j) The National Roster of Scientific and Specialized
6 Personnel shall be transferred from the Department of
7 Labor to the Foundation, together with such of the per-
8 sonnel, records, property, and balances of appropriations as
9 have been utilized or are available for use in the adminis-
10 tration of such roster as may be determined by the President.
11 The transfer provided for in this subsection shall take effect
12 at such time or times as the President shall direct.

13 (k) The Foundation shall not support any research or
14 development activity in the field of atomic energy, nor shall
15 it exercise any authority pursuant to section 11 (e) in
16 respect to that field, without first having obtained the con-
17 currence of the Atomic Energy Commission. Nothing in
18 this Act shall supersede or modify any provision of the
19 Atomic Energy Act of 1946.

20 (l) The Executive Committee, after consultation with
21 the Secretary of Defense, shall establish regulations and
22 procedures for the security classification of information or
23 property (having military significance) in connection with
24 scientific research under this Act, and for the proper safe-
25 guarding of any information or property so classified.

1 COORDINATION WITH FOREIGN POLICY

2 SEC. 16. (a) The authority to enter into contracts or
3 other arrangements with organizations or individuals in for-
4 eign countries and with agencies of foreign countries, as pro-
5 vided in section 11 (c), and the authority to cooperate in
6 international scientific research activities as provided in sec-
7 tion 13 (a), shall be exercised only after consultation with
8 the Secretary of State, to the end that such authority shall
9 be exercised in such manner as is consistent with the foreign
10 policy objectives of the United States.

11 (b) If, in the exercise of the authority referred to in
12 subsection (a) to carry out the purposes of this Act, negotia-
13 tion with foreign countries or agencies thereof becomes
14 necessary, such negotiation shall be carried on by the
15 Secretary of State in consultation with the Director.

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

By Mr. PIERST

JANUARY 3, 1949

Referred to the Committee on Interstate and Foreign
Commerce

81ST CONGRESS
1ST SESSION

H. R. 311

IN THE HOUSE OF REPRESENTATIVES

JANUARY 3, 1949

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6 SEC. 2. There is hereby established in the executive
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MEMBERSHIP OF FOUNDATION

1
2 SEC. 3. (a) The Foundation shall have twenty-four
3 members to be appointed by the President, by and with
4 the advice and consent of the Senate. The persons nom-
5 inated for appointment as members (1) shall be eminent
6 in the fields of the basic sciences, medical science, engineer-
7 ing, education, or public affairs; (2) shall be selected solely
8 on the basis of established records of distinguished service;
9 and (3) shall be so selected as to provide representation of
10 the views of scientific leaders in all areas of the Nation.
11 The President is requested, in the making of nominations
12 of persons for appointment as members, to give due con-
13 sideration to any recommendations for nomination which
14 may be submitted to him by the National Academy of
15 Sciences, Association of Land Grant Colleges and Univer-
16 sities, the National Association of State Universities, Asso-
17 ciation of American Colleges, or by other scientific or edu-
18 cational organizations.

19 (b) The term of office of each member of the Founda-
20 tion shall be six years, except that (1) any member ap-
21 pointed to fill a vacancy occurring prior to the expiration
22 of the term for which his predecessor was appointed shall
23 be appointed for the remainder of such term; and (2) the
24 terms of office of the members first taking office after the
25 date of enactment of this Act shall expire, as designated

1 by the President at the time of appointment, eight at the
2 end of two years, eight at the end of four years, eight at
3 the end of six years, after the date of enactment of this
4 Act. Any person who has been a member of the Founda-
5 tion for twelve consecutive years shall thereafter be ineligible
6 for appointment during the two-year period following the
7 expiration of such twelfth year.

8 (c) The President shall call the first meeting of the
9 members of the Foundation, at which the first order of
10 business shall be the election of a chairman and a vice
11 chairman.

12 POWERS AND DUTIES OF THE FOUNDATION

13 SEC. 4. (a) The Foundation is authorized and directed—

14 (1) to develop and encourage the pursuit of a na-
15 tional policy for the promotion of basic research and edu-
16 cation in the sciences;

17 (2) to initiate and support basic scientific research
18 in the mathematical, physical, medical, biological, engi-
19 neering, and other sciences, by making contracts or other
20 arrangements (including grants, loans, and other forms
21 of assistance) for the conduct of such basic scientific
22 research and to appraise the impact of research upon
23 industrial development and upon the general welfare;

24 (3) after consultation with the Secretary of De-
25 fense, to initiate and support scientific research in con-

1 nection with matters relating to the national defense
2 by making contracts or other arrangements (including
3 grants, loans, and other forms of assistance) for the
4 conduct of such scientific research;

5 (4) to grant scholarships and graduate fellowships
6 in the mathematical, physical, medical, biological, engi-
7 neering, and other sciences;

8 (5) to foster the interchange of scientific informa-
9 tion among scientists in the United States and foreign
10 countries;

11 (6) to correlate the Foundation's scientific research
12 programs with those undertaken by individuals and by
13 public and private research groups; and

14 (7) to establish for such period of time as it may
15 determine a special commission on cancer, on heart and
16 cardiovascular diseases, on poliomyelitis and other de-
17 generative diseases, and such other special commissions
18 as the Foundation may from time to time deem neces-
19 sary for the purposes of this Act.

20 (b) In exercising the authority and discharging the
21 functions referred to in subsection (a) of this section, it
22 shall be one of the objectives of the Foundation to strengthen
23 basic research and education in the sciences, including inde-
24 pendent research by individuals, throughout the United

1 States, including its Territories and possessions, and to avoid
2 undue concentration of such research and education.

3 (c) The members of the Foundation shall meet annually
4 on the first Monday in December and at such other times as
5 the Chairman may determine, but he shall also call a meeting
6 whenever one-third of the members so request in writing.
7 A majority of the members of the Foundation shall constitute
8 a quorum. Each member shall be given notice, by regis-
9 tered mail mailed to his last-known address of record not
10 less than fifteen days prior to any meeting, of the call of
11 such meeting.

12 (d) The first Chairman and Vice Chairman of the
13 Foundation shall be elected by the Foundation to serve until
14 the first Monday in December next succeeding the date of
15 election at which time a Chairman and Vice Chairman shall
16 be elected for a term of two years. Thereafter such election
17 shall take place at the annual meeting occurring at the end
18 of each such term. The Vice Chairman shall perform the
19 duties of the Chairman in his absence. In case a vacancy
20 occurs in the chairmanship or vice chairmanship, the Foun-
21 dation shall elect a member to fill such vacancy.

22 (e) The Foundation shall render an annual report
23 to the President for submission on or before the 15th day
24 of January to the Congress, summarizing the activities of

1 the Foundation and making such recommendations as it
2 may deem appropriate. Such report shall include in full
3 the report of the Executive Committee to the Foundation
4 provided for in section 5 (d).

5 CREATION AND POWERS AND DUTIES OF THE EXECUTIVE
6 COMMITTEE

7 SEC. 5. (a) There is hereby established an Executive
8 Committee of the Foundation which shall consist of the Di-
9 rector ex officio as provided for in section 6 of this Act,
10 and nine other members elected by the members of the
11 Foundation from among their number. The term of office
12 of each member of the Executive Committee shall be two
13 years except that (1) any member elected to fill a vacancy
14 occurring prior to the expiration of the term for which his
15 predecessor was elected shall be elected for the remainder of
16 such term; and (2) the term of office of four of the members
17 first elected after the date of enactment of this Act shall be
18 one year. Any person who has been a member of the Execu-
19 tive Committee for six consecutive years shall thereafter be
20 ineligible for election during the two-year period following
21 the expiration of such sixth year. The Executive Committee
22 shall implement the policies developed by the Foundation
23 under this Act. The membership of the Executive Com-
24 mittee shall so far as practicable be representative of diverse

1 interests and shall be so chosen as to provide representation,
2 so far as practicable, for all areas of the Nation.

3 (b) The Executive Committee shall meet at the call of
4 its chairman or at such times as may be fixed by itself, but
5 not less than six times each year.

6 (c) A majority of the voting members of the Executive
7 Committee shall constitute a quorum.

8 (d) The Executive Committee shall render an annual
9 report to the Foundation, and such other reports as it may
10 deem necessary, summarizing the activities of the Executive
11 Committee, making such recommendations as it may deem
12 appropriate, and setting forth the recommendations of the
13 divisional committees and special commissions. Minority
14 views and recommendations, if any, of members of the
15 Executive Committee, the divisional committees, and spe-
16 cial commissions shall be included in such reports.

17 DIRECTOR OF FOUNDATION

18 SEC. 6. (a) There shall be a Director of the Founda-
19 tion who shall be appointed by the President by and with
20 the advice and consent of the Senate, after receiving recom-
21 mendations from the Foundation. He shall serve as a non-
22 voting ex officio member of the Foundation and also as the
23 nonvoting Chairman of the Executive Committee. In addi-
24 tion thereto he shall be the chief executive officer of the

1 Foundation. The Director shall receive compensation at the
2 rate of \$15,000 per annum and shall serve for a term of six
3 years unless sooner removed by the President.

4 (b) The Director shall, in accordance with such direc-
5 tives as the Executive Committee shall from time to time
6 prescribe, exercise the powers set forth in this Act within
7 the policies developed by the Foundation: *Provided*, That
8 the authority granted to the Foundation by paragraph (c)
9 of section 11 shall be exercised by the Director with the
10 approval of the Executive Committee.

11 DIVISIONS WITHIN THE FOUNDATION

12 SEC. 7. (a) Until otherwise provided by the Founda-
13 tion there shall be within the Foundation the following
14 divisions:

15 (1) A Division of Medical Research;

16 (2) A Division of Mathematical, Physical, and En-
17 gineering Sciences;

18 (3) A Division of Biological Sciences; and

19 (4) A Division of Scientific Personnel and Education,
20 which shall be concerned with programs of the Foundation
21 relating to the granting of scholarships and graduate fellow-
22 ships in the mathematical, physical, medical, biological, en-
23 gineering, and other sciences.

24 (b) There shall also be within the Foundation such

1 other divisions as the Foundation may, from time to time,
2 deem necessary.

3 DIVISIONAL COMMITTEES

4 SEC. 8. (a) There shall be a committee for each division
5 of the Foundation.

6 (b) Each divisional committee shall be appointed by
7 the Executive Committee and shall consist of not less than
8 five persons who may be members or nonmembers of the
9 Foundation.

10 (c) The terms of members of each divisional committee
11 shall be two years. Each divisional committee shall annually
12 elect its own chairman from among its own members, and
13 shall prescribe its own rules of procedure, subject to such re-
14 strictions as may be prescribed by the Executive Committee.

15 (d) Each divisional committee shall make recommenda-
16 tions to, and advise and consult with, the Executive Com-
17 mittee and the Director with respect to matters relating to
18 the program of its division.

19 SPECIAL COMMISSIONS

20 SEC. 9. (a) Each special commission established by the
21 Foundation pursuant to section 4 (a) (7) shall consist of
22 eleven members appointed by the Executive Committee,
23 six of whom shall be eminent scientists and five of whom

1 shall be persons other than scientists. Each special com-
2 mission shall choose its own chairman and vice chairman.

3 (b) It shall be the duty of each such special commis-
4 sion to make a comprehensive survey of research, both
5 public and private, being carried on in its field, and to
6 formulate and recommend to the Executive Committee at
7 the earliest practicable date an over-all research program
8 in its field.

9 SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER
10 OF SCIENTIFIC PERSONNEL

11 SEC. 10. (a) The Director, with the approval of the
12 Foundation, is authorized to award, within the limits of funds
13 made available pursuant to section 14, scholarships and
14 graduate fellowships for scientific study or scientific work in
15 the mathematical, physical, medical, biological, engineering,
16 and other sciences at accredited nonprofit American or non-
17 profit foreign institutions of higher education, selected by
18 the recipient of such aid, for stated periods of time. Persons
19 shall be selected for such scholarships and fellowships from
20 among citizens of the United States, and such selections shall
21 be made solely on the basis of ability; but in any case in
22 which two or more applicants for scholarships or fellowships,
23 as the case may be, are deemed by the Director and
24 the Foundation to be possessed of substantially equal
25 ability, and there are not sufficient scholarships or fellowships,

1 as the case may be, available to grant one to each of such
2 applicants, the available scholarship or scholarships or
3 fellowship or fellowships shall be awarded to the applicants
4 in such manner as will tend to result in a wide distribution
5 of scholarships and fellowships among the States, Territories,
6 possessions, and the District of Columbia.

7 (b) The Foundation shall maintain a register of scientific
8 and technical personnel and in other ways provide a central
9 clearinghouse for information covering all scientific and
10 technical personnel in the United States and its possessions.

11 AUTHORITY OF FOUNDATION

12 SEC. 11. The Foundation is empowered to do all
13 things necessary to carry out the provisions of this Act,
14 and without being limited thereby, the Foundation is
15 specifically authorized—

16 (a) to prescribe such rules and regulations as
17 it deems necessary governing the manner of its opera-
18 tions and its organization and personnel;

19 (b) to make such expenditures as may be necessary
20 for administering the provisions of this Act;

21 (c) to enter into contracts or other arrangements,
22 or modifications thereof, for the carrying on, by organ-
23 izations or individuals in the United States and foreign
24 countries, including other government agencies of the
25 United States and of foreign countries (without legal

1 consideration, without performance or other bonds, and
2 without regard to section 3709 of the Revised Statutes),
3 of such basic scientific research activities and scientific
4 research activities in connection with the matters relat-
5 ing to the national defense as the Foundation deems
6 necessary to carry out the purposes of this Act;

7 (d) to make advance, progress, and other pay-
8 ments which relate to scientific research without regard
9 to the provisions of section 3648 of the Revised Statutes
10 (31 U. S. C., sec. 529) ;

11 (e) to acquire by purchase, lease, loan, or gift,
12 and to hold and dispose of by sale, lease, or loan, real
13 and personal property of all kinds necessary for, or re-
14 sulting from, scientific research ;

15 (f) to receive and use funds donated by others,
16 if such funds are donated, without restriction, other than
17 that they be used in furtherance of one or more of the
18 general purposes of the Foundation ;

19 (g) to publish or arrange for the publication of
20 scientific and technical information so as to further
21 the full dissemination of information of scientific value
22 consistent with the national interest, without regard to
23 the provisions of section 87 of the Act of January 12,
24 1895 (28 Stat. 622), and section 11 of the Act of
25 March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111) ;

(h) to accept and utilize the services of voluntary and uncompensated personnel and to pay the actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10 of such personnel incurred in the course of such services) ; and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 12. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation, by any contractual or other arrangement, to alter or modify any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall

1 acquire, retain, or transfer any rights, under the patent laws
2 of the United States or otherwise, in any invention which
3 he may make or produce in connection with performing his
4 assigned activities and which is directly related to the subject
5 matter thereof: *Provided, however,* That this subsection
6 shall not be construed to prevent any officer or employee of
7 the Foundation from executing any application for patent
8 on any such invention for the purpose of assigning the same
9 to the Government or its nominee in accordance with such
10 rules and regulations as the Director may establish.

11 INTERNATIONAL COOPERATION

12 SEC. 13. (a) The Foundation is hereby authorized to
13 cooperate in any international scientific research activities
14 consistent with the purposes of this Act and to expend for
15 such international scientific research activities such sums
16 within the limit of appropriated funds as the Foundation may
17 deem desirable.

18 (b) The Director, with the approval of the Executive
19 Committee, may defray the expenses of representatives of
20 Government agencies and other organizations and of indi-
21 vidual scientists to accredited international scientific con-
22 gresses and meetings whenever he deems it necessary in
23 the promotion of the objectives of this Act.

APPROPRIATIONS

1

2 SEC. 14. (a) To enable the Foundation to carry out
3 its powers and duties, there is hereby authorized to be
4 appropriated annually to the Foundation, out of any money
5 in the Treasury not otherwise appropriated, such sums as
6 may be necessary to carry out the provisions of this Act.

7 (b) The funds hereafter appropriated to the Founda-
8 tion, as herein authorized, shall, if obligated during the fiscal
9 year for which appropriated, remain available for expendi-
10 ture for four years following the expiration of the fiscal year
11 for which appropriated. After such four-year period, the
12 unexpended balances of appropriations shall be carried to
13 the surplus fund and covered into the Treasury.

14 GENERAL PROVISIONS

15 SEC. 15. (a) The Director shall, in accordance with
16 such general directives as the Executive Committee shall
17 from time to time prescribe, appoint and fix the compensa-
18 tion of such personnel as may be necessary to carry out the
19 provisions of this Act. Such appointments shall be made
20 and such compensation shall be fixed in accordance with
21 the provisions of the civil-service laws and regulations and
22 the Classification Act of 1923, as amended: *Provided*, That
23 the Director may, in accordance with such general directives

1 as the Executive Committee shall from time to time prescribe,
2 employ such technical and professional personnel and fix
3 their compensation, without regard to such laws, as he may
4 deem necessary for the discharge of the responsibilities of
5 the Foundation under this Act. The Deputy Director here-
6 inafter provided for, and the members of the divisional
7 committees, and special commissions, shall be appointed with-
8 out regard to the civil-service laws or regulations. Neither
9 the Director nor the Deputy Director shall engage in any
10 other business, vocation, or employment than that of serving
11 as such Director or Deputy Director, as the case may be;
12 nor shall the Director or Deputy Director, except with the
13 approval of the Executive Committee, hold any office in, or
14 act in any capacity for, any organization, agency, or institu-
15 tion with which the Foundation makes any contract or other
16 arrangement under this Act.

17 (b) The Director may appoint, with the approval of
18 the Executive Committee, a Deputy Director who shall per-
19 form such functions as the Director, with the approval of
20 the Executive Committee, may prescribe and shall be Acting
21 Director during the absence or disability of the Director or
22 in the event of a vacancy in the Office of the Director, and
23 who shall receive compensation at a rate not to exceed
24 \$12,000 per annum.

1 (c) The Foundation shall not, itself, operate any labora-
2 tories or pilot plants.

3 (d) The members of the Foundation, and the members
4 of each divisional committee, or special commission, shall
5 receive compensation at the rate of \$25 for each day
6 engaged in the business of the Foundation pursuant to
7 authorization of the Foundation, and shall be allowed actual
8 and necessary traveling and subsistence expenses (including,
9 in lieu of subsistence, per diem allowances at a rate not in
10 excess of \$10) when engaged, away from home, in the
11 duties of their offices.

12 (e) Persons holding other offices in the executive
13 branch of the Federal Government may serve as members of
14 the divisional committees, and special commissions, but they
15 shall not receive remuneration for their services as such
16 members during any period for which they receive com-
17 pensation for their services in such other offices.

18 (f) Service of an individual as a member of the Founda-
19 tion, of a divisional committee, or of a special commission
20 shall not be considered as service bringing him within the
21 provisions of section 109 or section 113 of the Criminal
22 Code (U. S. C., 1940 edition, title 18, secs. 198 and 203)
23 or section 19 (e) of the Contract Settlement Act of
24 1944, unless the act of such individual, which by such

1 section is made unlawful when performed by an individual
2 referred to in such section, is with respect to any particular
3 matter which directly involves the Foundation or in which
4 the Foundation is directly interested.

5 (g) In making contracts or other arrangements for
6 scientific research, the Foundation shall utilize appropria-
7 tions available therefor in such manner as will in its discre-
8 tion best realize the objectives of (1) having the work
9 performed by organizations, agencies, and institutions, or
10 individuals in the United States or foreign countries, includ-
11 ing Government agencies of the United States and of foreign
12 countries, qualified by training and experience to achieve the
13 results desired, (2) strengthening the research staff of organ-
14 izations, particularly nonprofit organizations, in the States
15 and Territories and the District of Columbia, and (3) aiding
16 institutions, agencies or organizations which, if aided, will
17 advance basic research, and (4) encouraging independent
18 basic research by individuals.

19 (h) The activities of the Foundation shall be con-
20 strued as supplementing and not superseding, curtailing, or
21 limiting any of the functions or activities of other Govern-
22 ment agencies authorized to engage in scientific research or
23 development.

24 (i) Funds available to any department or agency of

1 the Government for scientific or technical research, or the
2 provision of facilities therefor, shall be available for transfer,
3 with the approval of the head of the department or agency
4 involved in whole or in part, to the Foundation for such use
5 as is consistent with the purposes for which such funds were
6 provided, and funds so transferred shall be expendable by
7 the Foundation for the purposes for which the transfer was
8 made, and, until such time as an appropriation is made avail-
9 able directly to the Foundation, for general administrative
10 expenses of the Foundation without regard to limitations
11 otherwise applicable to such funds.

12 (j) The National Roster of Scientific and Specialized
13 Personnel shall be transferred from the Department of
14 Labor to the Foundation, together with such of the per-
15 sonnel, records, property, and balances of appropriations as
16 have been utilized or are available for use in the adminis-
17 tration of such roster as may be determined by the President.
18 The transfer provided for in this subsection shall take effect
19 at such time or times as the President shall direct.

20 (k) The Foundation shall not support any research
21 or development activity in the field of atomic energy, nor
22 shall it exercise any authority pursuant to section 11 (e)
23 in respect to that field, without first having obtained the
24 concurrence of the Atomic Energy Commission. Nothing

1 in this Act shall supersede or modify any provision of the
2 Atomic Energy Act of 1946.

3 (1) The Executive Committee, after consultation with
4 the Secretary of Defense, shall establish regulations and
5 procedures for the security classification of information or
6 property (having military significance) in connection with
7 scientific research under this Act, and for the proper safe-
8 guarding of any information or property so classified.

9 COORDINATION WITH FOREIGN POLICY

10 SEC. 16 (a) The authority to enter into contracts or
11 other arrangements with organizations or individuals in for-
12 eign countries and with agencies of foreign countries, as pro-
13 vided in section 11 (c), and the authority to cooperate in
14 international scientific research activities as provided in sec-
15 tion 13 (a), shall be exercised only after consultation with
16 the Secretary of State, to the end that such authority shall
17 be exercised in such manner as is consistent with the foreign
18 policy objectives of the United States.

19 (b) If, in the exercise of the authority referred to in
20 subsection (a) to carry out the purposes of this Act, negotia-
21 tion with foreign countries or agencies thereof becomes
22 necessary, such negotiation shall be carried on by the
23 Secretary of State in consultation with the Director.

A BILL

To promote the progress of science ; to advance the national health, prosperity, and welfare ; to secure the national defense ; and for other purposes.

By Mr. WOLVERTON

JANUARY 3, 1949

Referred to the Committee on Interstate and Foreign
Commerce

81ST CONGRESS
1ST SESSION

H. R. 359

IN THE HOUSE OF REPRESENTATIVES

JANUARY 3, 1949

Mr. CELLER introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

A BILL

To promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Founda-
4 tion Act of 1949".

5 DECLARATION OF POLICY

6 SEC. 2. The Congress hereby finds that a full develop-
7 ment and application of the Nation's scientific and technical
8 resources is essential for the national defense, national pros-
9 perity, and the national health and welfare. The Congress
10 declares it to be the purpose of this Act, among other things,

1 to provide support for scientific research and development,
2 to enable young men and women of ability to receive
3 scientific training, to promote the conservation and use of
4 the natural resources of the Nation, to correlate the scientific
5 research and development programs of the several Government
6 agencies, to achieve a full dissemination of scientific
7 and technical information to the public, and to foster the
8 interchange of scientific and technical information in this
9 country and abroad. The Congress further finds it essential
10 for these purposes to create a central scientific agency within
11 the Federal Government.

12 NATIONAL SCIENCE FOUNDATION

13 SEC. 3. (a) There is hereby established an independent
14 agency of the Federal Government to be known as
15 the National Science Foundation (hereinafter referred to as
16 the "Foundation"), and administered by an Administrator
17 (hereinafter referred to as the "Administrator") who shall
18 be appointed by the President, by and with the advice and
19 consent of the Senate, and shall receive compensation at the
20 rate of \$15,000 per annum. The President, before appointing
21 an Administrator, shall consult with and receive the
22 recommendations of the National Science Board created in
23 section 4 (and hereinafter referred to as the "Board"). The
24 Administrator shall appoint a Deputy Administrator, who
25 shall perform the functions of the Administrator during

1 his absence or when there is a vacancy in the office of the
2 Administrator, and shall perform such other duties as may
3 be delegated to him by the Administrator. The Deputy
4 Administrator shall receive compensation at the rate of
5 \$12,000 per annum.

6 (b) There shall be within the Foundation, a Division of
7 Mathematical and Physical Sciences, a Division of Biological
8 Sciences, a Division of Social Sciences, a Division of Health
9 and Medical Sciences, a Division of National Defense, a
10 Division of Engineering and Technology, a Division of Scien-
11 tific Personnel and Education, a Division of Publications and
12 Information, and such additional divisions, not to exceed
13 three in number, as the Administrator may from time to time
14 establish after receiving the advice of the Board. The func-
15 tions of each division shall be prescribed by the Adminis-
16 trator after receiving the advice of the Board, except that
17 until the Administrator and the Board have received general
18 recommendations from the Division of Social Sciences regard-
19 ing the support of research through that Division, support of
20 social science research shall be limited to studies of the impact
21 of scientific discovery on the general welfare and studies
22 required in connection with other projects supported by the
23 Foundation. Each division shall be headed by a Director,
24 who shall be appointed by the Administrator and shall re-
25 ceive compensation at the rate of \$12,000 per annum.

1 (c) Except as provided in section 4, the Administrator
2 shall appoint and fix the compensation of such personnel as
3 he may deem necessary to carry out the provisions of this
4 Act. Such appointments shall be made and such compensa-
5 tion shall be fixed in accordance with the provisions of the
6 civil-service laws and regulations and the Classification Act
7 of 1923, as amended, except that, when deemed necessary
8 by the Administrator for the effective administration of this
9 Act, expert scientific, technical, and professional personnel,
10 including part-time personnel, may be employed without re-
11 gard to the civil-service laws, and their compensation fixed
12 without regard to the Classification Act of 1923, as amended.

13 NATIONAL SCIENCE BOARD AND DIVISIONAL SCIENTIFIC

14 COMMITTEES

15 SEC. 4. (a) The Administrator, in exercising his au-
16 thority under this Act, shall consult and advise with a
17 National Science Board and, through the Directors of the
18 several divisions, with divisional scientific committees, on all
19 matters of major policy, program, or budget. The Board shall
20 consist of nine members appointed by the President, by and
21 with the advice and consent of the Senate, from among per-
22 sons who are especially qualified to promote the broad objec-
23 tives of this Act, plus the chairmen of the several divisional
24 scientific committees. The scientific committee for each divi-
25 sion, except the Division of National Defense, shall consist of

1 not less than five and not more than fifteen members ap-
2 pointed by the Administrator, with the advice and approval
3 of the Board, except that the initial members of each such
4 divisional scientific committee shall be appointed by the
5 Administrator with the advice and approval of the Board
6 members appointed by the President.

7 The scientific committee for the Division of National
8 Defense shall consist of not more than forty persons, of
9 whom at least half shall be civilians appointed by the Admin-
10 istrator, with the advice and approval of the Board, and
11 the remaining members shall be divided equally between
12 such chiefs of such services and divisions of the War Depart-
13 ment and such chiefs of such bureaus and offices of the Navy
14 Department as the Secretary of War and the Secre-
15 tary of the Navy, respectively, may from time to time
16 designate. There shall be within the divisional scientific
17 committee for the Division of National Defense a five-man
18 executive committee consisting of the chairman of the divi-
19 sional scientific committee, as chairman; two civilian mem-
20 bers elected annually by the civilian members of the divi-
21 sional scientific committee; together with one Army officer,
22 and one naval officer, each of whom should be charged in
23 their respective Departments with the coordination of re-
24 search, designated by the Secretary of War and the Secretary
25 of the Navy, respectively.

1 Each divisional scientific committee shall be reasonably
2 representative of the major scientific interests and functions
3 of its division. Members of the Board appointed by the
4 President and members of the divisional scientific committees
5 appointed by the Administrator shall service for three-year
6 terms, except that (1) at least one-third of such members
7 originally appointed shall be appointed for one-year terms,
8 and at least another third for two-year terms, and (2) any
9 member appointed to fill a vacancy occurring prior to the
10 expiration of the term of his predecessor shall be appointed
11 for the remainder of such term. No person thus appointed
12 to serve as a member of the Board or any divisional scientific
13 committee shall be eligible again to serve as a member of the
14 same group until the expiration of one year after his term
15 has expired, except that a member appointed for a term of
16 less than three years may be appointed for a succeeding
17 three-year term.

18 (b) The Board and each divisional scientific committee
19 shall annually elect its own chairman from among its own
20 members, and shall devise its own rules of procedure. The
21 Board and each such committee shall meet at the call of
22 its own chairman or at such times as may be fixed by itself,
23 but not less than six times each year, including at least once
24 each calendar quarter. Vacancies in the membership of the
25 Board or of any divisional scientific committee shall not

1 impair the authority of the remaining members to execute
2 its functions, and a majority of the members of the Board or
3 any divisional scientific committee as constituted at any
4 given time shall constitute a quorum.

5 The Board shall appoint and prescribe the duties of an
6 executive secretary of its own selection who shall receive
7 compensation at a rate, not exceeding \$12,000 per annum,
8 to be fixed by the Board. The Administrator shall pay the
9 compensation of such executive secretary and may furnish
10 for the Board and the divisional scientific committees such
11 additional personnel, and such facilities, services, and sup-
12 plies as may be necessary for the proper performance of
13 the functions of the Board and the divisional scientific
14 committees.

15 (c) The Board shall continuously survey the activities
16 and management of the Foundation, and shall periodically
17 evaluate the achievements of the Foundation in accomplish-
18 ing the objectives of this Act. Each divisional scientific
19 committee shall survey continuously the scientific field which
20 it encompasses, shall undertake to determine the specific
21 scientific needs of such field, and shall evaluate proposed pro-
22 grams and projects. The Board and each divisional scientific
23 committee shall, upon its own initiative or upon request by
24 the Administrator, make appropriate recommendations and
25 reports relating to its duties and findings. The Board and

1 each such committee shall have full access to all information
2 in the possession of the Foundation.

3 (d) The Administrator shall render an annual report to
4 the President and the Congress, summarizing the activities
5 of the Foundation, together with such recommendations as he
6 may deem appropriate. The Board shall, annually and at
7 such other times as it deems necessary, make such recom-
8 mendations to the President and the Congress as in its
9 opinion will further the objectives of this Act. The annual
10 report shall include whatever dissenting opinions may be
11 cerning the budget, organization, and management of the
12 Foundation, and such other recommendations as the Board
13 and the divisional scientific committees may deem necessary
14 to better effectuate the purposes of this Act. The annual
15 report shall include whatever dissenting opinions may be
16 submitted for that purpose by individual members of the
17 Board or of the divisional scientific committees. The Ad-
18 ministrator shall, whenever requested by the Board or any
19 divisional scientific committee, publish and disseminate
20 widely any recommendations or reports prepared by the
21 Board or such committee.

22 (e) Members of the Board and of the divisional scien-
23 tific committees shall receive compensation at the rate
24 of \$50 for each day engaged in the business of the
25 Foundation, and shall be reimbursed for their neces-

1 sary travel and other expenses incurred in the work of the
2 Board or of any such committee. Persons holding other
3 offices in the executive branch of the Federal Government
4 may serve as members of the Board or any divisional scientific
5 committee, but they shall not receive remuneration for their
6 services as such members during any period for which they
7 receive compensation for their services in such other offices,
8 nor, except for representatives of the War and Navy Depart-
9 ments on the scientific committee for the Division of National
10 Defense, shall they in their services as such members serve as
11 representatives of the Government agency by which they
12 are employed.

13 (f) Members of the Board and of any divisional scien-
14 tific committee established under the provisions of this Act,
15 and any other officers or employees of the Foundation, shall
16 be chosen without regard to their political affiliations and
17 solely on the basis of their demonstrated capacity to carry
18 out the purposes of the Foundation and their fitness to per-
19 form the duties of their office.

20 (g) The Administrator may create such specialized
21 additional advisory committees or employ the services of
22 such advisory personnel as he may deem necessary to
23 better effectuate the objectives of this Act. Persons so
24 employed shall be reimbursed for their necessary travel

1 and other expenses incurred in the work of the Foundation.
2 Such persons may be noncompensated or may receive com-
3 pensation at a rate not to exceed \$50 for each day of service.
4 Members of the Board and of the divisional scientific com-
5 mittees, and any other person serving in an advisory
6 capacity pursuant to this section, may serve as such
7 without regard to the provisions of sections 109 and 113
8 of the Criminal Code (18 U. S. C., secs. 198 and 203)
9 or section 19 (e) of the Contract Settlement Act of 1944,
10 except insofar as such sections may prohibit any such per-
11 son from receiving compensation in respect of any par-
12 ticular matter which directly involves the Foundation or in
13 which the Foundation is directly interested.

14 SUPPORT OF RESEARCH AND DEVELOPMENT

15 SEC. 5. (a) The Administrator is authorized to enter
16 into contracts or other arrangements pursuant to which he
17 will finance, in whole or in part, or otherwise support, re-
18 search and development activities to be carried on by other
19 Government agencies or by other organizations.

20 (b) Of the funds appropriated to the Foundation for
21 research and development activities, not less than 15 per
22 centum shall be available only for expenditure for research
23 and development, pursuant to contracts or other financial
24 arrangements made by the Administrator under this section,
25 including contracts or arrangements to which subsection (c)

1 is applicable, in each of the following fields: (1) National
2 defense and (2) health and the medical sciences.

3 (c) Of the funds appropriated to the Foundation for
4 research and development activities (excluding funds ex-
5 pressly appropriated for national defense), not less than 25
6 per centum shall be apportioned among the States as follows:
7 Two-fifths shall be apportioned among the States in equal
8 shares, and the remainder shall be apportioned among the
9 States in the proportion that their respective populations
10 bear to the population of all the States, determined accord-
11 ing to the last preceding decennial census; and the amounts
12 so apportioned to each State shall be expended only for
13 carrying on research and development activities in the
14 facilities of tax-supported colleges and universities, including
15 the land-grant colleges, within such State pursuant to con-
16 tracts or other financial arrangements made by the Adminis-
17 trator under this section. In making such contracts or
18 other financial arrangements, the Administrator shall give
19 each individual institution the widest latitude in its selection
20 of individual research and development projects, but the Ad-
21 ministrator shall not be required to expend funds in any insti-
22 tution unless it submits proposals for the expenditure of such
23 funds which the Administrator finds to be consistent with
24 such general program and standards as he may, after receiv-
25 ing the advice of the Board, establish in order to carry out

1 the objectives and provisions of this Act. For purposes of
2 this section the term "State" includes Alaska, Hawaii, and
3 Puerto Rico. Of the funds appropriated to the Foundation
4 for research and development activities (excluding funds
5 expressly appropriated for national defense), an additional
6 amount of not less than 25 per centum shall be expended in
7 the facilities of nonprofit organizations without regard to the
8 above limitations relating to State quotas or the tax-supported
9 character of the organization. In meeting the requirements
10 of this subsection, the Administrator may take into account
11 whatever funds may be expended by the Foundation for
12 facilities to be operated by the land-grant, tax-supported, or
13 other nonprofit organizations, even though the title or owner-
14 ship rights of such facilities remain with the United States.

15 (d) The activities of the Foundation shall be construed
16 as supplementing and not superseding, curtailing, or limiting
17 any of the functions or activities of other Government agen-
18 cies authorized to engage in scientific research and develop-
19 ment. Funds allocated by the Administrator to other Gov-
20 ernment agencies shall be utilized for projects approved by
21 the Administrator and undertaken on behalf of the Foun-
22 dation, and shall be in addition to, and not in lieu of funds
23 regularly appropriated to such other Government agencies.

24 (e) In all research and development activities financed
25 or otherwise supported by the Foundation, the Administrator

1 shall make every effort to eliminate restraints upon the free
2 expression of scientific views and to insure full freedom in the
3 exercise of creative talents, in the development of new ideas,
4 and in the methods of research. Any person engaged in
5 such research and development activities shall not be pre-
6 cluded from independently discussing, writing, or publish-
7 ing his own views and conclusions relating to such research
8 and development.

9 SCHOLARSHIPS AND FELLOWSHIPS

10 SEC. 6. The Administrator is authorized to award schol-
11 arships and fellowships to persons for scientific study or
12 scientific work in any field of science, including but not
13 limited to the mathematical, physical, biological, medical,
14 and social sciences at nonprofit institutions of higher educa-
15 tion, or other institutions, selected by the recipient of such
16 aid, for such periods as the Administrator may determine, in
17 the United States or in foreign countries. Persons shall be
18 selected for such scholarships and fellowships solely on the
19 basis of aptitude, within the limits of such quotas as may be
20 established to insure an equitable selection of such persons
21 from among the States, the District of Columbia, and the
22 Territories. Persons selected for such scholarships and fel-
23 lowships may include employees of the Federal Government
24 and such employees selected and detailed for scientific study

1 or training shall not lose their status or seniority ratings for
2 reason of absence from regularly assigned duties during the
3 course of such study or training.

4 REGISTER OF SCIENTIFIC PERSONNEL

5 SEC. 7. The Administrator shall maintain a register of
6 scientific and technical personnel and in other ways provide
7 a central clearinghouse for information concerning all scien-
8 tific and technical personnel in the United States and its
9 possessions. No individual shall be listed in such register
10 without his consent.

11 USE AND DISSEMINATION OF RESEARCH FINDINGS

12 SEC. 8. (a) The Administrator shall make and maintain
13 an inventory of all current federally financed research and
14 development projects. In cooperation with the Commis-
15 sioner of Patents, the Administrator shall establish a central
16 register of all inventions, discoveries, patents, patent rights,
17 and findings, including references to related data, in which
18 the United States or any agency thereof has any right,
19 title, or interest, or which pursuant to this section have
20 been freely dedicated to the public. The Administrator
21 shall record, collect, index, and promptly publish or cause to
22 be published significant data on all inventions and discoveries
23 and other findings produced in the course of federally
24 financed research and development activities, or arrange
25 with other Government agencies for such publishing,

1 recording, collecting, and indexing. In consultation and
2 collaboration with the Library of Congress and other
3 Government agencies, the Administrator shall take such
4 steps as he may deem necessary to make such in-
5 formation and other available significant scientific and tech-
6 nical information accessible to the public, including the
7 preparation and distribution of reports, periodic catalogs,
8 inventories, abstracts, translations, bibliographies, and micro-
9 film and other reproductions thereof; and for such purposes
10 the Administrator may utilize the facilities of Government
11 agencies and other organizations to the extent that he deems
12 necessary or desirable, and may contract for the expenditure
13 of funds for such purposes without regard to the provisions
14 of section 87 of the Act of January 12, 1895 (28 Stat. 622),
15 and section 11 of the Act of March 1, 1919 (40 Stat. 1270)
16 (U. S. C., title 44, sec. 111).

17 (b) Each contract or other arrangement for federally
18 financed research or development entered into between any
19 Government agency and any organization shall provide that
20 such organization will make available to such agency full
21 data on all inventions, discoveries, patents, patent rights,
22 and findings produced in the course of such research or devel-
23 opment, including such reports with respect thereto as may
24 be required by such agency. Each Government agency,
25 upon the request of the Administrator, shall make available

1 to him such data and such reports with respect to research
2 and development activities financed by such agency, as may
3 be necessary for the purposes of this section.

4 (c) All inventions, discoveries, or findings in which the
5 United States (or any Government agency), now or here-
6 after, hold any rights, including patent rights, shall be made
7 available to the public on a nonexclusive and on a royalty-
8 free basis to the extent the United States or such agency is
9 entitled to do so under the rights held by it. Except as
10 provided hereafter in this subsection and in subsection (d),
11 any invention, discovery, or finding hereafter produced in
12 the course of federally financed research and development
13 shall, whether or not patented, be made freely available to
14 the public and shall, if patented, be freely dedicated to the
15 public. The requirements of this subsection, to the extent
16 that they require modification of contracts or other financial
17 arrangements already entered into by the United States (or
18 any Government agency) shall not go into effect until one
19 hundred and twenty days after the date of enactment of this
20 Act.

21 (d) The head of any Government agency financing by
22 contract, or otherwise administering, federally financed re-
23 search and development activities, may, by stipulation in the
24 contract or by other advance agreements with any organiza-
25 tion, provide for the retention by the organization, or by the

1 inventor, or by their assignees of such patent rights based on
2 discoveries, inventions, or findings produced in the course
3 of such research and development as the head of such Gov-
4 ernment agency deems fair and equitable, and consistent
5 with the national interest: *Provided*, That (1) the head of
6 such Government agency shall, before entering into any such
7 contract or agreement, make a finding that the agency has
8 made every reasonable effort to arrange for the conduct of
9 the necessary research and development without entering
10 into a contract containing such provision; (2) the organiza-
11 tion shall contribute or shall have contributed substantially
12 to the development of the particular inventions, discoveries,
13 or findings for which patent rights are retained through
14 earlier or current research and development activities
15 financed by the organization; (3) in every case, the contract
16 or agreement shall provide for at least an irrevocable, non-
17 exclusive, royalty-free license for governmental purposes to
18 the United States; and (4), in the case of any nonprofit
19 organization, the head of such Government agency further
20 determines (A) that the research and development is essen-
21 tial in the field of national defense or in such other fields
22 as the President may specify for such purpose, and (B) that
23 the patent rights retained will not be used to serve the
24 special benefit of any organization conducted for profit or
25 of any individual, and will be made available or licensed to

1 applicants on a nonexclusive, uniform, and reasonable
2 royalty basis.

3 In the administration of the provisions of this subsection,
4 the head of any Government agency shall be guided by
5 such rules and regulations as the President may deem neces-
6 sary and prescribe by Executive order.

7 (e) The Administrator shall make a quarterly report
8 to the President and to the Congress concerning contracts
9 and agreements containing the provisions authorized by
10 subsection (d). This report shall include a list of all con-
11 tracts and agreements containing such a provision entered
12 into by any Government agency during the preceding quar-
13 ter, the reasons supporting the approval of such provision
14 in each case, the amount of Federal funds expended or to
15 be expended under each contract or agreement contain-
16 ing such a provision, the name of the organization with
17 which the contract or agreement was made, and the general
18 nature of the patent rights reserved for private use in each
19 case. The report shall also include a list of all inventions,
20 discoveries, or findings in which patent rights were per-
21 mitted to be retained pursuant to the provisions of subsec-
22 tion (d) and which were first recorded or finally authorized
23 during the preceding quarter, identification of the contract
24 or agreement under which such inventions, discoveries, or
25 findings were produced, and the nature of the rights retained.

1 The report shall also include the Administrator's recom-
2 mendations, if any, for such further Executive or legislative
3 action as he may deem necessary.

4 (f) Notwithstanding any other provision of this Act,
5 the President, or any person designated for that purpose by
6 him, may exempt from the requirements of this Act relating
7 to dedication to the public, publication, dissemination, mak-
8 ing available, or reporting information, data, patents, inven-
9 tions, or discoveries relating to or produced in the course of
10 federally financed research or development or in which the
11 United States holds any rights, if and so long as the Presi-
12 dent or such designated person determines that such exemp-
13 tion is essential in the interest of national security.

14 INTERNATIONAL COOPERATION

15 SEC. 9. (a) The head of any Government agency is
16 hereby authorized, with the approval of the President and
17 through the Department of State, to conclude reciprocal
18 agreements with foreign governments or agencies thereof,
19 relating to the interchange of scientific and technological
20 information (including models and samples for information
21 purposes), and the use and availability of patents and patent
22 rights owned or controlled by the respective governments.

23 (b) The Administrator is hereby authorized, with the
24 approval of the President and through the Department of
25 State, to cooperate in any international research or develop-

1 ment activities consistent with the purposes or provisions of
2 Act and to expend for such international research activi-
3 ties such sums within the limit of appropriated funds as the
4 Administrator may deem desirable.

5 (c) The Administrator may defray the expenses of rep-
6 resentatives of Government agencies and other organizations
7 and of individual scientists to accredited international scien-
8 tific congresses and meetings whenever he deems it neces-
9 sary in the promotion of the objectives of this Act.

10 INTERDEPARTMENTAL COORDINATION

11 SEC. 10. (a) There is hereby established an Interde-
12 partmental Committee on Science, to consist of the Adminis-
13 trator, as Chairman, and the heads (or their designees) of
14 such Government agencies engaged in or concerned with
15 the support of scientific activity to a substantial degree as
16 the President may from time to time determine. The Inter-
17 departmental Committee shall meet whenever the Chairman
18 so determines, but not less than once a month.

19 (b) The Interdepartmental Committee shall advise and
20 assist the Administrator in gathering and correlating data
21 relating to the scientific research and development activities
22 of the Federal Government; shall study and evaluate such
23 data in relation to the program of the Foundation and the
24 scientific research and development programs of the other
25 Government agencies; and shall make such recommendations

1 to the Foundation and other Government agencies as in
2 the opinion of the Committee will serve to aid in effectuating
3 the objectives of this Act and other legislation providing
4 for Federal support of scientific research and development.
5 The Administrator, in consultation with the Interdepart-
6 mental Committee, shall, from time to time, make recom-
7 mendations to the President for the achievement of max-
8 imum effectiveness in the conduct of all federally financed
9 research and development.

10 MISCELLANEOUS

11 SEC. 11. (a) To enable the Administrator to carry out
12 his powers and duties, there is hereby authorized to be
13 appropriated annually to the Foundation, out of any money
14 in the Treasury not otherwise appropriated, such sums as
15 may be necessary to carry out the provisions of this Act.
16 The funds appropriated to the Foundation, as herein author-
17 ized, and funds hereafter appropriated to any Government
18 agency for scientific research or development, as herein
19 defined, shall, if obligated during the fiscal year for which
20 appropriated, remain available for expenditure for four years
21 following the expiration of the fiscal year for which ap-
22 propriated. After such a four-year period, the unexpended
23 balances of appropriations shall be carried to the surplus
24 fund and covered into the Treasury.

25 (b) The materials or equipment purchased by Federal

1 funds or furnished by the Federal Government in connec-
2 tion with research and development activities shall be the
3 property of the United States. The Administrator shall not,
4 however, through the Foundation or its own employees,
5 operate any laboratories, pilot plants, or other such scien-
6 tific or technical facilities which he may acquire.

7 (c) In carrying out his functions under this Act, the
8 Administrator is authorized—

9 (1) to prescribe such rules and regulations as he
10 may deem necessary to govern the manner of the opera-
11 tions of the Foundation and its organization and
12 personnel;

13 (2) to make such expenditures as may be necessary
14 for carrying out the provisions of the Act;

15 (3) to enter into contracts, or amendments or
16 modifications of contracts, without performance or other
17 bonds, and without regard to section 3709 of the Re-
18 vised Statutes (U. S. C., title 41, sec. 5) in the case
19 of all contracts which relate to scientific research or
20 development;

21 (4) to make advance, progress, and other pay-
22 ments which relate to scientific research or development
23 without regard to the provisions of section 3648 of the
24 Revised Statutes (U. S. C., title 31, sec. 529) ;

25 (5) to acquire by purchase, or otherwise, hold and

1 dispose of by sale, lease, loan, or otherwise, real and
2 personal property of all kinds necessary for, or resulting
3 from, scientific research or development; and

4 (6) to prescribe, with the approval of the Comp-
5 troller General of the United States, the extent to which
6 vouchers for funds expended under contracts for scien-
7 tific research and development shall be subject to
8 itemization or substantiation prior to payment, without
9 regard to the limitations of other laws relating to the
10 expenditure of public funds and accounting therefor.

11 (d) The provisions of the Reorganization Act of 1945
12 shall be applicable with respect to the Foundation, and with
13 respect to the transfer of agencies and functions to and
14 from the Foundation, without regard to the provisions of
15 section 5 (e) of such Act.

16 (e) The Office of Scientific Research and Development,
17 and its constituent committees shall be transferred to the
18 Foundation; together with such of the powers, functions,
19 duties, personnel, property, records, funds (including all
20 unexpended balances of appropriations, allocations, or other
21 funds now available), contracts, assets, and liabilities
22 as may be determined by the President. The National
23 Roster of Scientific and Specialized Personnel shall
24 be transferred from the Department of Labor to the Foun-
25 dation, together with such of the personnel, records, property,

1 and balances of appropriations as have been utilized or are
2 available for use in the administration of such roster as may
3 be determined by the President. The transfers provided for
4 in this subsection shall take effect at such time or times as
5 the President shall direct.

6 (f) If any provision of this Act, or the application of
7 such provision to any person or circumstance, is held invalid,
8 the remainder of this Act, or the application of such provision
9 to persons or circumstances other than those as to which
10 it is held invalid, shall not be affected thereby.

11 DEFINITIONS

12 SEC. 12. As used in this Act—

13 (a) “Research and development” means theoretical
14 analysis, exploration, and experimentation in any field of
15 science (including but not limited to the mathematical,
16 physical, biological, medical, engineering, and social sci-
17 ences), and the extension of investigative findings and
18 theories of a scientific or technical nature into practical ap-
19 plication, including the experimental production and testing
20 of models and processes.

21 (b) “Federally financed research and development”
22 means research and development conducted directly by the
23 Federal Government and all other research and development
24 financed in whole or in part directly by the Federal Govern-
25 ment from funds designated for research and development,

1 under a contract, grant, or other direct form of financial
2 assistance for research and development.

3 (c) "Government agency" includes departments, inde-
4 pendent agencies and commissions, corporations, and other
5 instrumentalities of the Federal Government.

6 (d) "Organizations" includes State and local govern-
7 ment agencies, corporations, partnerships, nonprofit institu-
8 tions, and individuals.

9 (e) "Scholarships and fellowships" means stipends
10 covering tuition and other fees, and such living, travel, and
11 other expenses as the Administrator may determine.

81ST CONGRESS
1ST Session

H. R. 359

A BILL

To promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, and for other purposes.

By Mr. Celler

JANUARY 3, 1949

Referred to the Committee on Interstate and Foreign
Commerce

81ST CONGRESS
1ST SESSION

S. 247

IN THE SENATE OF THE UNITED STATES

JANUARY 6, 1949

Mr. THOMAS of Utah (for himself, Mr. KILGORE, Mr. FULBRIGHT, Mr. MAGNUSON, Mr. SMITH of New Jersey, Mr. CORDON, and Mr. SALTONSTALL) introduced the following bill; which was read twice and referred to the Committee on Labor and Public Welfare

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Foun-
4 dation Act of 1949".

5 ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

6 SEC. 2. There is hereby established in the executive
7 branch of the Government an independent agency to be
8 known as the National Science Foundation (hereinafter
9 referred to as the "Foundation").



1 MEMBERSHIP OF FOUNDATION

2 SEC. 3. (a) The Foundation shall have twenty-four
3 members to be appointed by the President, by and with
4 the advice and consent of the Senate. The persons nom-
5 inated for appointment as members (1) shall be eminent
6 in the fields of the basic sciences, medical science,
7 engineering, education, or public affairs; (2) shall be
8 selected solely on the basis of established records of
9 distinguished service; and (3) shall be so selected as
10 to provide representation of the views of scientific leaders
11 in all areas of the Nation. The President is requested, in
12 the making of nominations of persons for appointment as
13 members, to give due consideration to any recommendations
14 for nomination which may be submitted to him by the
15 National Academy of Sciences, Association of Land Grant
16 Colleges and Universities, the National Association of State
17 Universities, Association of American Colleges, or by other
18 scientific or educational organizations.

19 (b) The term of office of each member of the Founda-
20 tion shall be six years, except that (1) any member ap-
21 pointed to fill a vacancy occurring prior to the expiration
22 of the term for which his predecessor was appointed shall
23 be appointed for the remainder of such term; and (2) the
24 terms of office of the members first taking office after the
25 date of enactment of this Act shall expire, as designated

1 by the President at the time of appointment, eight at the
2 end of two years, eight at the end of four years, eight at
3 the end of six years, after the date of enactment of this
4 Act. Any person who has been a member of the Founda-
5 tion for twelve consecutive years shall thereafter be ineligible
6 for appointment during the two-year period following the
7 expiration of such twelfth year.

8 (c) The President shall call the first meeting of the
9 members of the Foundation, at which the first order of
10 business shall be the election of a chairman and a vice
11 chairman.

12 POWERS AND DUTIES OF THE FOUNDATION

13 SEC. 4. (a) The Foundation is authorized and directed—

14 (1) to develop and encourage the pursuit of a na-
15 tional policy for the promotion of basic research and edu-
16 cation in the sciences;

17 (2) to initiate and support basic scientific research
18 in the mathematical, physical, medical, biological, engi-
19 neering, and other sciences, by making contracts or other
20 arrangements (including grants, loans, and other forms
21 of assistance) for the conduct of such basic scientific
22 research and to appraise the impact of research upon
23 industrial development and upon the general welfare;

24 (3) after consultation with the Secretary of De-
25 fense, to initiate and support scientific research in con-

1 nection with matters relating to the national defense
2 by making contracts or other arrangements (including
3 grants, loans, and other forms of assistance) for the
4 conduct of such scientific research;

5 (4) to grant scholarships and graduate fellowships
6 in the mathematical, physical, medical, biological, engi-
7 neering, and other sciences;

8 (5) to foster the interchange of scientific informa-
9 tion among scientists in the United States and foreign
10 countries;

11 (6) to correlate the Foundation's scientific research
12 programs with those undertaken by individuals and by
13 public and private research groups; and

14 (7) to establish such special commissions as the
15 Foundation may from time to time deem necessary
16 for the purposes of this Act.

17 (b) In exercising the authority and discharging the
18 functions referred to in subsection (a) of this section, it
19 shall be the objective of the Foundation to achieve the
20 results of scientific research in the most efficient manner
21 possible and to strengthen basic research and education in
22 the sciences, including independent research by individuals,
23 throughout the United States, including its Territories and
24 possessions, and to avoid undue concentration of such re-
25 search and education.

1 (c) The members of the Foundation shall meet
2 annually on the first Monday in December and at such other
3 times as the Chairman may determine, but he shall also
4 call a meeting whenever one-third of the members so request
5 in writing. A majority of the members of the Foundation
6 shall constitute a quorum. Each member shall be given
7 notice, by registered mail mailed to his last-known address
8 of record not less than fifteen days prior to any meeting,
9 of the call of such meeting.

10 (d) The first Chairman and Vice Chairman of the
11 Foundation shall be elected by the Foundation to serve
12 until the first Monday in December next succeeding the
13 date of election at which time a Chairman and Vice Chair-
14 man shall be elected for a term of two years. Thereafter
15 such election shall take place at the annual meeting occur-
16 ring at the end of each such term. The Vice Chairman
17 shall perform the duties of the Chairman in his absence. In
18 case a vacancy occurs in the chairmanship or vice chairman-
19 ship, the Foundation shall elect a member to fill such
20 vacancy.

21 (e) The Foundation is authorized to appoint from
22 among its members, an Executive Committee and from time
23 to time to appoint from among its members or otherwise,
24 such other committees as it deems necessary and to assign
25 to such Executive Committee or other committees such

1 powers and functions as it deems appropriate for the pur-
2 poses of this Act.

3 (f) The Foundation shall render an annual report
4 to the President for submission on or before the 15th day
5 of January to the Congress, summarizing the activities of
6 the Foundation and making such recommendations as it
7 may deem appropriate.

8 DIRECTOR OF FOUNDATION

9 SEC. 5. There shall be a Director of the Foundation
10 who shall be appointed by the President by and with the
11 advice and consent of the Senate, after the members of the
12 Foundation have been appointed and qualified. He shall
13 serve as an ex officio member of the Foundation. In addition
14 thereto he shall be the chief executive officer of the Founda-
15 tion. The Director shall receive compensation at the rate
16 of \$15,000 per annum and shall serve for a term of six years
17 unless sooner removed by the President.

18 DIVISIONS WITHIN THE FOUNDATION

19 SEC. 6. (a) Until otherwise provided by the Founda-
20 tion there shall be within the Foundation the following
21 divisions:

22 (1) A Division of Medical Research;

23 (2) A Division of Mathematical, Physical, and En-
24 gineering Sciences;

25 (3) A Division of Biological Sciences; and

1 (4) A Division of Scientific Personnel and Education,
2 which shall be concerned with programs of the Foundation
3 relating to the granting of scholarships and graduate fellow-
4 ships in the mathematical, physical, medical, biological, en-
5 gineering, and other sciences.

6 (b) There shall also be within the Foundation such
7 other divisions as the Foundation may, from time to time,
8 deem necessary.

9 DIVISIONAL COMMITTEES

10 SEC. 7. (a) There shall be a committee for each divi-
11 sion of the Foundation.

12 (b) Each divisional committee shall be appointed by
13 the Foundation and shall consist of not less than five persons
14 who may be members or nonmembers of the Foundation.

15 (c) The terms of members of each divisional com-
16 mittee shall be two years. Each divisional committee shall
17 annually elect its own chairman from among its own mem-
18 bers, and shall prescribe its own rules of procedure, subject
19 to such restrictions as may be prescribed by the Foundation.

20 (d) Each divisional committee shall make recom-
21 mendations to, and advise and consult with, the Foundation
22 and the Director with respect to matters relating to the
23 program of its division.

24 SPECIAL COMMISSIONS

25 SEC. 8. (a) Each special commission established by

1 the Foundation pursuant to section 4 (a) (7) shall consist
2 of eleven members appointed by the Foundation, six of
3 whom shall be eminent scientists and five of whom shall be
4 persons other than scientists. Each special commission shall
5 choose its own chairman and vice chairman.

6 (b) It shall be the duty of each such special commis-
7 sion to make a comprehensive survey of research, both
8 public and private, being carried on in its field, and to
9 formulate and recommend to the Foundation, at the earliest
10 practicable date, an over-all research program in its field.

11 SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER

12 OF SCIENTIFIC PERSONNEL

13 SEC. 9. (a) The Director, with the approval of the
14 Foundation, is authorized to award, within the limits of funds
15 made available pursuant to section 13, scholarships and
16 graduate fellowships for scientific study or scientific work in
17 the mathematical, physical, medical, biological, engineering,
18 and other sciences at accredited nonprofit American or non-
19 profit foreign institutions of higher education, selected by
20 the recipient of such aid, for stated periods of time. Persons
21 shall be selected for such scholarships and fellowships from
22 among citizens of the United States, and such selections shall
23 be made solely on the basis of ability; but in any case in
24 which two or more applicants for scholarships or fellowships,
25 as the case may be, are deemed by the Director and

1 the Foundation to be possessed of substantially equal
2 ability, and there are not sufficient scholarships or fellowships,
3 as the case may be, available to grant one to each of such
4 applicants, the available scholarship or scholarships or
5 fellowship or fellowships shall be awarded to the applicants
6 in such manner as will tend to result in a wide distribution
7 of scholarships and fellowships among the States, Territories,
8 possessions, and the District of Columbia.

9 (b) The Foundation shall maintain a register of sci-
10 entific and technical personnel and in other ways provide a
11 central clearinghouse for information covering all scientific
12 and technical personnel in the United States and its
13 possessions.

14 AUTHORITY OF FOUNDATION

15 SEC. 10. The Foundation is empowered to do all things
16 necessary to carry out the provisions of this Act, and with-
17 out being limited thereby, the Foundation is specifically
18 authorized—

19 (a) to prescribe such rules and regulations as
20 it deems necessary governing the manner of its opera-
21 tions and its organization and personnel;

22 (b) to make such expenditures as may be necessary
23 for administering the provisions of this Act;

24 (c) to enter into contracts or other arrangements,

1 or modifications thereof, for the carrying on, by organ-
2 izations or individuals in the United States and foreign
3 countries, including other government agencies of the
4 United States and of foreign countries (without legal
5 consideration, without performance or other bonds, and
6 without regard to section 3709 of the Revised Statutes),
7 of such basic scientific research activities as the Founda-
8 tion deems necessary to carry out the purposes of this
9 Act;

10 (d) to make advance, progress, and other pay-
11 ments which relate to scientific research without regard
12 to the provisions of section 3648 of the Revised Statutes
13 (31 U. S. C., sec. 529) ;

14 (e) to acquire by purchase, lease, loan, or gift,
15 and to hold and dispose of by sale, lease, or loan, real
16 and personal property of all kinds necessary for, or re-
17 sulting from, scientific research;

18 (f) to receive and use funds donated by others,
19 if such funds are donated, without restriction, other than
20 that they be used in furtherance of one or more of the
21 general purposes of the Foundation;

22 (g) to publish or arrange for the publication of
23 scientific and technical information so as to further
24 the full dissemination of information of scientific value
25 consistent with the national interest, without regard to

1 the provisions of section 87 of the Act of January 12,
2 1895 (28 Stat. 622), and section 11 of the Act of
3 March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111) :

4 (h) to accept and utilize the services of volun-
5 tary and uncompensated personnel and to pay the actual
6 and necessary traveling and subsistence expenses (in-
7 cluding, in lieu of subsistence, per diem allowances at
8 a rate not in excess of \$10 for such personnel incurred
9 in the course of such services) ; and

10 (i) to prescribe, with the approval of the Comp-
11 troller General of the United States, the extent to
12 which vouchers for funds expended under contracts for
13 scientific research shall be subject to itemization or sub-
14 stantiation prior to payment, without regard to the limi-
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16 public funds and accounting therefor.

17 PATENT RIGHTS

18 SEC. 11. (a) Each contract or other arrangement exe-
19 cuted pursuant to this Act which relates to scientific research
20 shall contain provisions governing the disposition of inven-
21 tions produced thereunder in a manner calculated to protect
22 the public interest and the equities of the individual or
23 organization with which the contract or other arrangement
24 is executed: *Provided, however,* That nothing in this Act
25 shall be construed to authorize the Foundation, by any con-

1 tractual or other arrangement, to alter or modify any pro-
2 vision of law affecting the issuance or use of patents.

3 (b) No officer or employee of the Foundation shall
4 acquire, retain, or transfer any rights, under the patent laws
5 of the United States or otherwise, in any invention which
6 he may make or produce in connection with performing his
7 assigned activities and which is directly related to the subject
8 matter thereof: *Provided, however,* That this subsection
9 shall not be construed to prevent any officer or employee of
10 the Foundation from executing any application for patent
11 on any such invention for the purpose of assigning the same
12 to the Government or its nominee in accordance with such
13 rules and regulations as the Director may establish.

14 INTERNATIONAL COOPERATION

15 SEC. 12. (a) The Foundation is hereby authorized
16 to cooperate in any international scientific research activities
17 consistent with the purposes of this Act and to expend for
18 such international scientific research activities such sums
19 within the limit of appropriated funds as the Foundation may
20 deem desirable.

21 (b) The Director, with the approval of the Founda-
22 tion, may defray the expenses of representatives of Gov-
23 ernment agencies and other organizations and of individual
24 scientists to accredited international scientific congresses and

1 meetings whenever he deems it necessary in the promotion
2 of the objectives of this Act.

3 APPROPRIATIONS

4 SEC. 13. (a) To enable the Foundation to carry out
5 its powers and duties, there is hereby authorized to be
6 appropriated annually to the Foundation, out of any money
7 in the Treasury not otherwise appropriated, such sums as
8 may be necessary to carry out the provisions of this Act.

9 (b) The funds hereafter appropriated to the Founda-
10 tion, as herein authorized, shall, if obligated during the fiscal
11 year for which appropriated, remain available for expendi-
12 ture for four years following the expiration of the fiscal year
13 for which appropriated. After such four-year period, the
14 unexpended balances of appropriations shall be carried to
15 the surplus fund and covered into the Treasury.

16 GENERAL PROVISIONS

17 SEC. 14. (a) The Director shall, in accordance with
18 such policies as the Foundation shall from time to time
19 prescribe, appoint and fix the compensation of such per-
20 sonnel as may be necessary to carry out the provisions of
21 this Act. Such appointments shall be made and such com-
22 pensation shall be fixed in accordance with the provisions
23 of the civil-service laws and regulations and the Classification
24 Act of 1923, as amended: *Provided*, That the Director

1 may in accordance with such policies as the Foundation shall
2 from time to time prescribe, employ such technical and
3 professional personnel and fix their compensation, with-
4 out regard to such laws, as he may deem necessary
5 for the discharge of the responsibilities of the Founda-
6 tion under this Act. The Deputy Director herein-
7 after provided for, and the members of the divisional
8 committees, and special commissions, shall be appointed with-
9 out regard to the civil-service laws or regulations. Neither
10 the Director nor the Deputy Director shall engage in any
11 other business, vocation, or employment than that of serving
12 as such Director or Deputy Director, as the case may be;
13 nor shall the Director or Deputy Director, except with the
14 approval of the Foundation, hold any office in, or act in
15 any capacity for, any organization, agency, or institution
16 with which the Foundation makes any contract or other
17 arrangement under this Act.

18 (b) The Director may appoint, with the approval of
19 the Foundation, a Deputy Director who shall perform such
20 functions as the Director, with the approval of the Founda-
21 tion, may prescribe and shall be Acting Director during
22 the absence or disability of the Director or in the event of
23 a vacancy in the Office of the Director, and who shall receive
24 compensation at a rate not to exceed \$12,000 per annum.

1 (c) The Foundation shall not, itself, operate any labora-
2 tories or pilot plants.

3 (d) The members of the Foundation, and the members
4 of each divisional committee, or special commission, shall
5 receive compensation at the rate of \$25 for each day
6 engaged in the business of the Foundation pursuant to
7 authorization of the Foundation, and shall be allowed actual
8 and necessary traveling and subsistence expenses (including,
9 in lieu of subsistence, per diem allowances at a rate not in
10 excess of \$10) when engaged, away from home, in the
11 duties of their offices.

12 (e) Persons holding other offices in the executive
13 branch of the Federal Government may serve as members of
14 the divisional committees, and special commissions, but they
15 shall not receive remuneration for their services as such
16 members during any period for which they receive com-
17 pensation for their services in such other offices.

18 (f) Service of an individual as a member of the Founda-
19 tion, of a divisional committee, or of a special commission
20 shall not be considered as service bringing him within the
21 provisions of section 109 or section 113 of the Criminal
22 Code (U. S. C., 1940 edition, title 18, secs. 198 and 203)
23 or section 19 (e) of the Contract Settlement Act of
24 1944, unless the act of such individual, which by such

1 section is made unlawful when performed by an individual
2 referred to in such section, is with respect to any particular
3 matter which directly involves the Foundation or in which
4 the Foundation is directly interested.

5 (g) In making contracts or other arrangements for
6 scientific research, the Foundation shall utilize appropria-
7 tions available therefor in such manner as will in its discre-
8 tion best realize the objectives of (1) having the work
9 performed by organizations, agencies, and institutions, or
10 individuals in the United States or foreign countries, includ-
11 ing Government agencies of the United States and of foreign
12 countries, qualified by training and experience to achieve the
13 results desired, (2) strengthening the research staff of organ-
14 izations, particularly nonprofit organizations, in the States
15 and Territories and the District of Columbia, and (3) aiding
16 institutions, agencies or organizations which, if aided, will
17 advance basic research, and (4) encouraging independent
18 basic research by individuals.

19 (h) The activities of the Foundation shall be con-
20 strued as supplementing and not superseding, curtailing, or
21 limiting any of the functions or activities of other Govern-
22 ment agencies authorized to engage in scientific research or
23 development.

24 (i) Funds available to any department or agency of

1 the Government for scientific or technical research, or the
2 provision of facilities therefor, shall be available for transfer,
3 with the approval of the head of the department or agency
4 involved, in whole or in part, to the Foundation for such use
5 as is consistent with the purposes for which such funds were
6 provided, and funds so transferred shall be expendable by
7 the Foundation for the purposes for which the transfer was
8 made, and, until such time as an appropriation is made avail-
9 able directly to the Foundation, for general administrative
10 expenses of the Foundation without regard to limitations
11 otherwise applicable to such funds.

12 (j) The National Roster of Scientific and Specialized
13 Personnel shall be transferred from the Department of
14 Labor to the Foundation, together with such of the per-
15 sonnel, records, property, and balances of appropriations as
16 have been utilized or are available for use in the adminis-
17 tration of such roster as may be determined by the President.
18 The transfer provided for in this subsection shall take effect
19 at such time or times as the President shall direct.

20 (k) The Foundation shall not support any research
21 or development activity in the field of atomic energy, nor
22 shall it exercise any authority pursuant to section 10 (e)
23 in respect to that field, without first having obtained the
24 concurrence of the Atomic Energy Commission that such

1 activity will not adversely affect the common defense and
2 security. Nothing in this Act shall supersede or modify
3 any provision of the Atomic Energy Act of 1946.

4 (1) The Foundation, after consultation with the Secre-
5 tary of Defense, shall establish regulations and procedures
6 for the security classification of information or property
7 (having military significance) in connection with scientific
8 research under this Act, and for the proper safeguarding of
9 any information or property so classified.

10 COORDINATION WITH FOREIGN POLICY

11 SEC. 15. (a) The authority to enter into contracts or
12 other arrangements with organizations or individuals in for-
13 eign countries and with agencies of foreign countries, as pro-
14 vided in section 10 (c), and the authority to cooperate in
15 international scientific research activities as provided in sec-
16 tion 12 (a), shall be exercised in such manner as is con-
17 sistent with the foreign policy objectives of the United States
18 as determined by the Secretary of State after consultation
19 with the Director.

20 (b) If, in the exercise of the authority referred to in
21 subsection (a) to carry out the purposes of this Act, negotia-
22 tion with foreign countries or agencies thereof becomes neces-

- 1 sary, such negotiation shall be carried on by the Secretary
- 2 of State in consultation with the Director.

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

By Mr. THOMAS of Utah, Mr. KILGORE, Mr. FULL-
BRIGHT, Mr. MAGNUSON, Mr. SMITH of New
Jersey, Mr. CONDON, and Mr. SAITONSTRALL

JANUARY 6, 1949

Read twice and referred to the Committee on Labor
and Public Welfare

81ST CONGRESS
1ST SESSION

H. R. 2308

IN THE HOUSE OF REPRESENTATIVES

FEBRUARY 3, 1949

Mr. MILLS introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Foun-
4 dation Act of 1949".

5 ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

6 SEC. 2. There is hereby established in the executive
7 branch of the Government an independent agency to be
8 known as the National Science Foundation (hereinafter
9 referred to as the "Foundation").

MEMBERSHIP OF FOUNDATION

1
2 SEC. 3. (a) The Foundation shall have twenty-four
3 members to be appointed by the President, by and with
4 the advice and consent of the Senate. The persons nom-
5 inated for appointment as members (1) shall be eminent
6 in the fields of the basic sciences, medical science,
7 engineering, education, or public affairs; (2) shall be
8 selected solely on the basis of established records of
9 distinguished service; and (3) shall be so selected as to
10 provide representation of the views of scientific leaders in
11 all areas of the Nation. The President is requested, in
12 the making of nominations of persons for appointment as
13 members, to give due consideration to any recommendations
14 for nomination which may be submitted to him by the
15 National Academy of Sciences, Association of Land Grant
16 Colleges and Universities, the National Association of State
17 Universities, Association of American Colleges, or by other
18 scientific or educational organizations.

19 (b) The term of office of each member of the Founda-
20 tion shall be six years, except that (1) any member ap-
21 pointed to fill a vacancy occurring prior to the expiration
22 of the term for which his predecessor was appointed shall
23 be appointed for the remainder of such term; and (2) the
24 terms of office of the members first taking office after the
25 date of enactment of this Act shall expire, as designated

1 by the President at the time of appointment, eight at the
2 end of two years, eight at the end of four years, eight at
3 the end of six years, after the date of enactment of this
4 Act. Any person who has been a member of the Founda-
5 tion for twelve consecutive years shall thereafter be ineligible
6 for appointment during the two-year period following the
7 expiration of such twelfth year.

8 (c) The President shall call the first meeting of the
9 members of the Foundation, at which the first order of
10 business shall be the election of a chairman and a vice
11 chairman.

12 POWERS AND DUTIES OF THE FOUNDATION

13 SEC. 4. (a) The Foundation is authorized and directed—

14 (1) to develop and encourage the pursuit of a na-
15 tional policy for the promotion of basic research and edu-
16 cation in the sciences;

17 (2) to initiate and support basic scientific research
18 in the mathematical, physical, medical, biological, engi-
19 neering, and other sciences, by making contracts or other
20 arrangements (including grants, loans, and other forms
21 of assistance) for the conduct of such basic scientific
22 research and to appraise the impact of research upon
23 industrial development and upon the general welfare;

24 (3) after consultation with the Secretary of De-
25 fense, to initiate and support scientific research in con-

1 nection with matters relating to the national defense
2 by making contracts or other arrangements (including
3 grants, loans, and other forms of assistance) for the
4 conduct of such scientific research;

5 (4) to grant scholarships and graduate fellowships
6 in the mathematical, physical, medical, biological, engi-
7 neering, and other sciences;

8 (5) to foster the interchange of scientific informa-
9 tion among scientists in the United States and foreign
10 countries;

11 (6) to correlate the Foundation's scientific research
12 programs with those undertaken by individuals and by
13 public and private research groups; and

14 (7) to establish such special commissions as the
15 Foundation may from time to time deem necessary
16 for the purposes of this Act.

17 (b) In exercising the authority and discharging the
18 functions referred to in subsection (a) of this section, it
19 shall be the objective of the Foundation to achieve the
20 results of scientific research in the most efficient manner
21 possible and to strengthen basic research and education in
22 the sciences, including independent research by individuals,
23 throughout the United States including its Territories and
24 possessions, and to avoid undue concentration of such re-
25 search and education.

1 (c) The members of the Foundation shall meet
2 annually on the first Monday in December and at such other
3 times as the Chairman may determine, but he shall also
4 call a meeting whenever one-third of the members so request
5 in writing. A majority of the members of the Foundation
6 shall constitute a quorum. Each member shall be given
7 notice, by registered mail mailed to his last-known address
8 of record not less than fifteen days prior to any meeting,
9 of the call of such meeting.

10 (d) The first Chairman and Vice Chairman of the
11 Foundation shall be elected by the Foundation to serve
12 until the first Monday in December next succeeding the
13 date of election at which time a Chairman and Vice Chair-
14 man shall be elected for a term of two years. Thereafter
15 such election shall take place at the annual meeting occur-
16 ring at the end of each such term. The Vice Chairman
17 shall perform the duties of the Chairman in his absence. In
18 case a vacancy occurs in the chairmanship or vice chairman-
19 ship, the Foundation shall elect a member to fill such
20 vacancy.

21 (e) The Foundation is authorized to appoint from
22 among its members, an Executive Committee and from time
23 to time to appoint from among its members or otherwise,
24 such other committees as it deems necessary and to assign
25 to such Executive Committee or other committees such

1 powers and functions as it deems appropriate for the pur-
2 poses of this Act.

3 (f) The Foundation shall render an annual report
4 to the President for submission on or before the 15th day
5 of January to the Congress, summarizing the activities of
6 the Foundation and making such recommendations as it
7 may deem appropriate.

8 DIRECTOR OF FOUNDATION

9 SEC. 5. There shall be a Director of the Foundation
10 who shall be appointed by the President by and with the
11 advice and consent of the Senate, after the members of the
12 Foundation have been appointed and qualified. He shall
13 serve as an ex officio member of the Foundation. In addition
14 thereto he shall be the chief executive officer of the Founda-
15 tion. The Director shall receive compensation at the rate
16 of \$15,000 per annum and shall serve for a term of six years
17 unless sooner removed by the President.

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19 SEC. 6. (a) Until otherwise provided by the Founda-
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25 (3) A Division of Biological Sciences; and

1 (4) A Division of Scientific Personnel and Education,
2 which shall be concerned with programs of the Foundation
3 relating to the granting of scholarships and graduate fellow-
4 ships in the mathematical, physical, medical, biological, en-
5 gineering, and other sciences.

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7 other divisions as the Foundation may, from time to time,
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10 SEC. 7. (a) There shall be a committee for each divi-
11 sion of the Foundation.

12 (b) Each divisional committee shall be appointed by
13 the Foundation and shall consist of not less than five persons
14 who may be members or nonmembers of the Foundation.

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16 mittee shall be two years. Each divisional committee shall
17 annually elect its own chairman from among its own mem-
18 bers, and shall prescribe its own rules of procedure, subject
19 to such restrictions as may be prescribed by the Foundation.

20 (d) Each divisional committee shall make recommenda-
21 tions to, and advise and consult with, the Foundation and
22 the Director with respect to matters relating to the program
23 of its division.

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25 SEC. 8. (a) Each special commission established by

1 the Foundation pursuant to section 4 (a) (7) shall consist
2 of eleven members appointed by the Foundation, six of
3 whom shall be eminent scientists and five of whom shall be
4 persons other than scientists. Each special commission shall
5 choose its own chairman and vice chairman.

6 (b) It shall be the duty of each such special commis-
7 sion to make a comprehensive survey of research, both
8 public and private, being carried on in its field, and to
9 formulate and recommend to the Foundation at the earliest
10 practicable date, an over-all research program in its field.

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12 OF SCIENTIFIC PERSONNEL

13 SEC. 9. (a) The Director, with the approval of the
14 Foundation, is authorized to award, within the limits of funds
15 made available pursuant to section 13, scholarships and
16 graduate fellowships for scientific study or scientific work in
17 the mathematical, physical, medical biological, engineering,
18 and other sciences at accredited nonprofit American or non-
19 profit foreign institutions of higher education, selected by
20 the recipient of such aid, for stated periods of time. Persons
21 shall be selected for such scholarships and fellowships from
22 among citizens of the United States, and such selections shall
23 be made solely on the basis of ability; but in any case in
24 which two or more applicants for scholarships or fellowships,
25 as the case may be, are deemed by the Director and

1 the Foundation to be possessed of substantially equal
2 ability, and there are not sufficient scholarships or fellowships,
3 as the case may be, available to grant one to each of such
4 applicants, the available scholarship or scholarships or
5 fellowship or fellowships shall be awarded to the applicants
6 in such manner as will tend to result in a wide distribution
7 of scholarships and fellowships among the States, Territories,
8 possessions, and the District of Columbia.

9 (b) The Foundation shall maintain a register of sci-
10 entific and technical personnel and in other ways provide a
11 central clearinghouse for information covering all scientific
12 and technical personnel in the United States and its
13 possessions.

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15 SEC. 10. The Foundation is empowered to do all things
16 necessary to carry out the provisions of this Act, and with-
17 out being limited thereby, the Foundation is specifically
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20 it deems necessary governing the manner of its opera-
21 tions and its organization and personnel;

22 (b) to make such expenditures as may be necessary
23 for administering the provisions of this Act;

24 (c) to enter into contracts or other arrangements;

1 or modifications thereof, for the carrying on, by organ-
2 izations or individuals in the United States and foreign
3 countries, including other Government agencies of the
4 United States and of foreign countries (without legal
5 consideration, without performance or other bonds, and
6 without regard to section 3709 of the Revised Statutes),
7 of such basic scientific research activities as the Founda-
8 tion deems necessary to carry out the purposes of this
9 Act;

10 (d) to make advance, progress, and other pay-
11 ments which relate to scientific research without regard
12 to the provisions of section 3648 of the Revised Statutes
13 (31 U. S. C., sec. 529) ;

14 (e) to acquire by purchase, lease, loan, or gift,
15 and to hold and dispose of by sale, lease, or loan, real
16 and personal property of all kinds necessary for, or re-
17 sulting from, scientific research;

18 (f) to receive and use funds donated by others,
19 if such funds are donated, without restriction, other than
20 that they be used in furtherance of one or more of the
21 general purposes of the Foundation;

22 (g) to publish or arrange for the publication of
23 scientific and technical information so as to further
24 the full dissemination of information of scientific value
25 consistent with the national interest, without regard to

the provisions of section 87 of the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to pay the actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10 for such personnel incurred in the course of such services); and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 11. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation, by any con-

1 tractual or other arrangement, to alter or modify any pro-
2 vision of law affecting the issuance or use of patents.

3 (b) No officer or employee of the Foundation shall
4 acquire, retain, or transfer any rights, under the patent laws
5 of the United States or otherwise, in any invention which
6 he may make or produce in connection with performing his
7 assigned activities and which is directly related to the subject
8 matter thereof: *Provided, however,* That this subsection
9 shall not be construed to prevent any officer or employee of
10 the Foundation from executing any application for patent
11 on any such invention for the purpose of assigning the same
12 to the Government or its nominee in accordance with such
13 rules and regulations as the Director may establish.

14 INTERNATIONAL COOPERATION

15 SEC. 12. (a) The Foundation is hereby authorized
16 to cooperate in any international scientific research activities
17 consistent with the purposes of this Act and to expend for
18 such international scientific research activities such sums
19 within the limit of appropriated funds as the Foundation may
20 deem desirable.

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22 tion, may defray the expenses of representatives of Gov-
23 ernment agencies and other organizations and of individual
24 scientists to accredited international scientific congresses and

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2 of the objectives of this Act.

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4 SEC. 13. (a) To enable the Foundation to carry out
5 its powers and duties, there is hereby authorized to be
6 appropriated annually to the Foundation, out of any money
7 in the Treasury not otherwise appropriated such sums as
8 may be necessary to carry out the provisions of this Act.

9 (b) The funds hereafter appropriated to the Founda-
10 tion, as herein authorized, shall, if obligated during the fiscal
11 year for which appropriated, remain available for expendi-
12 ture for four years following the expiration of the fiscal year
13 for which appropriated. After such four-year period, the
14 unexpended balances of appropriations shall be carried to
15 the surplus fund and covered into the Treasury.

16 GENERAL PROVISIONS

17 SEC. 14. (a) The Director shall, in accordance with
18 such policies as the Foundation shall from time to time
19 prescribe, appoint and fix the compensation of such per-
20 sonnel as may be necessary to carry out the provisions of
21 this Act. Such appointments shall be made and such com-
22 pensation shall be fixed in accordance with the provisions
23 of the civil-service laws and regulations and the Classification
24 Act of 1923, as amended: *Provided*, That the Director

1 may in accordance with such policies as the Foundation shall
2 from time to time prescribe, employ such technical and
3 professional personnel and fix their compensation, with-
4 out regard to such laws, as he may deem necessary
5 for the discharge of the responsibilities of the Founda-
6 tion under this Act. The Deputy Director hereinafter pro-
7 vided for, and the members of the divisional committees,
8 and special commissions, shall be appointed without re-
9 gard to the civil-service laws or regulations. Neither the
10 Director nor the Deputy Director shall engage in any other
11 business, vocation, or employment than that of serving as
12 such Director or Deputy Director, as the case may be;
13 nor shall the Director or Deputy Director, except with the
14 approval of the Foundation, hold any office in, or act in
15 any capacity for, any organization, agency, or institution
16 with which the Foundation makes any contract or other
17 arrangement under this Act.

18 (b) The Director may appoint, with the approval of
19 the Foundation, a Deputy Director who shall perform such
20 functions as the Director, with the approval of the Founda-
21 tion, may prescribe and shall be Acting Director during
22 the absence or disability of the Director or in the event of
23 a vacancy in the Office of the Director, and who shall receive
24 compensation at a rate not to exceed \$12,000 per annum.

1 (c) The Foundation shall not, itself, operate any labora-
2 tories or pilot plants.

3 (d) The members of the Foundation, and the members
4 of each divisional committee, or special commission, shall
5 receive compensation at the rate of \$25 for each day
6 engaged in the business of the Foundation pursuant to
7 authorization of the Foundation, and shall be allowed actual
8 and necessary traveling and subsistence expenses (including,
9 in lieu of subsistence, per diem allowances at a rate not in
10 excess of \$10) when engaged, away from home, in the
11 duties of their offices.

12 (e) Persons holding other offices in the executive
13 branch of the Federal Government may serve as members of
14 the divisional committees, and special commissions, but they
15 shall not receive remuneration for their services as such
16 members during any period for which they receive com-
17 pensation for their services in such other offices.

18 (f) Service of an individual as a member of the Founda-
19 tion, of a divisional committee, or of a special commission
20 shall not be considered as service bringing him within the
21 provisions of section 109 or section 113 of the Criminal
22 Code (U. S. C., 1940 edition, title 18, secs. 198 and 203)
23 or section 19 (e) of the Contract Settlement Act of
24 1944, unless the act of such individual, which by such

1 section is made unlawful when performed by an individual
2 referred to in such section, is with respect to any particular
3 matter which directly involves the Foundation or in which
4 the Foundation is directly interested.

5 (g) In making contracts or other arrangements for
6 scientific research, the Foundation shall utilize appropria-
7 tions available therefor in such manner as will in its discre-
8 tion best realize the objectives of (1) having the work
9 performed by organizations, agencies, and institutions, or
10 individuals in the United States or foreign countries, includ-
11 ing Government agencies of the United States and of foreign
12 countries, qualified by training and experience to achieve the
13 results desired, (2) strengthening the research staff of organ-
14 izations, particularly nonprofit organizations, in the States
15 and Territories and the District of Columbia, and (3) aiding
16 institutions, agencies, or organizations which, if aided, will
17 advance basic research, and (4) encouraging independent
18 basic research by individuals.

19 (h) The activities of the Foundation shall be con-
20 strued as supplementing and not superseding, curtailing, or
21 limiting any of the functions or activities of other Govern-
22 ment agencies authorized to engage in scientific research or
23 development.

24 (i) Funds available to any department or agency of
25 the Government for scientific or technical research, or the

1 provision of facilities therefor, shall be available for transfer,
2 with the approval of the head of the department or agency
3 involved, in whole or in part, to the Foundation for such use
4 as is consistent with the purposes for which such funds were
5 provided, and funds so transferred shall be expendable by
6 the Foundation for the purposes for which the transfer was
7 made, and, until such time as an appropriation is made avail-
8 able directly to the Foundation, for general administrative
9 expenses of the Foundation without regard to limitations
10 otherwise applicable to such funds.

11 (j) The National Roster of Scientific and Specialized
12 Personnel shall be transferred from the Department of
13 Labor to the Foundation, together with such of the per-
14 sonnel, records, property, and balances of appropriations as
15 have been utilized or are available for use in the adminis-
16 tration of such roster as may be determined by the President.
17 The transfer provided for in this subsection shall take effect
18 at such time or times as the President shall direct.

19 (k) The Foundation shall not support any research
20 or development activity in the field of atomic energy, nor
21 shall it exercise any authority pursuant to section 10 (e)
22 in respect to that field, without first having obtained the
23 concurrence of the Atomic Energy Commission that such
24 activity will not adversely affect the common defense and

1 security. Nothing in this Act shall supersede or modify
2 any provision of the Atomic Energy Act of 1946.

3 (1) The Foundation, after consultation with the Secre-
4 tary of Defense, shall establish regulations and procedures
5 for the security classification of information or property
6 (having military significance) in connection with scientific
7 research under this Act, and for the proper safeguarding of
8 any information or property so classified.

9 COORDINATION WITH FOREIGN POLICY

10 SEC. 15. (a) The authority to enter into contracts or
11 other arrangements with organizations or individuals in for-
12 eign countries and with agencies of foreign countries, as pro-
13 vided in section 10 (c), and the authority to cooperate in
14 international scientific research activities as provided in
15 section 12 (a), shall be exercised in such manner as is
16 consistent with the foreign policy objectives of the United
17 States as determined by the Secretary of State after consul-
18 tation with the Director.

19 (b) If, in the exercise of the authority referred to in
20 subsection (a) to carry out the purposes of this Act, negotia-
21 tion with foreign countries or agencies thereof becomes neces-
22 sary, such negotiation shall be carried on by the Secretary
23 of State in consultation with the Director.

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

By Mr. MULLS

FEBRUARY 3, 1949

Referred to the Committee on Interstate and Foreign
Commerce

PROMOTING THE PROGRESS OF SCIENCE

MARCH 3 (legislative day, FEBRUARY 21), 1949.—Ordered to be printed

Mr. THOMAS of Utah, from the Committee on Labor and Public Welfare, submitted the following

REPORT

[To accompany S. 247]

The Committee on Labor and Public Welfare, to whom was referred the bill (S. 247) (introduced by Mr. Thomas of Utah, for himself, Mr. Kilgore, Mr. Fulbright, Mr. Magnuson, Mr. Smith of New Jersey, Mr. Cordon, and Mr. Saltonstall) to promote the progress of science; to advance the national health, prosperity, and welfare, to secure the national defense; and for other purposes, having considered the same, report favorably thereon, without amendments, and recommend that the bill be adopted.

GENERAL STATEMENT

For a number of years there has been a Nation-wide demand for the creation of a National Science Foundation. The need for the creation of such an organization has been repeatedly recognized in the official statements of Presidents; in the hearings, conferences, and debates of several Congresses; and in the writings and statements of outstanding scientists, educators, students, and industrialists.

The subject matter of this proposed legislation has been carefully considered and thoroughly studied by a number of committees and subcommittees of both Houses during the Seventy-ninth and Eightieth Congresses. The public hearings conducted on this question encompass more than 1,000 pages of printed testimony submitted by more than 150 qualified witnesses. The need for the enactment of this type of legislation was uniformly attested to by officials of Government, military leaders, outstanding scientists and educators, as well as by representatives of labor, industry, and the clergy. Moreover, a number of public and private organizations submitted written communications urging the early establishment of a National Science Foundation.

The various hearings and studies conducted by the Congress reveal a severe shortage of skilled scientists. This shortage is apparent in

universities, private research institutions, Government agencies, and in private industry. This shortage has resulted in a spirited competition among the various users of scientific manpower, with the result that long-range research programs are threatened with flux and instability. The shortage of American men and women holding advanced degrees in the sciences has reached an alarming figure—an accumulated deficiency of 17,000 doctor's degrees alone has been reported—the result of a consistent neglect of scientific educational opportunities over the years.

These hearings and studies, in addition to establishing the grave need for more trained scientists in America, also establish the need for greatly stimulating American research in the basic sciences, as contrasted with applied science, as well as providing a responsible program of directing and coordinating such basic research.

While there can be little question that American industry is well equipped to carry forward comprehensive research programs in the field of the applied sciences, the fact remains that American industry enjoys no such secure position with respect to research in the fields of basic or pure science.

Spokesmen for industry have revealed that more than 150,000 industrial establishments have no basic research facilities whatever, and that those establishments with such facilities are pursuing goals which are peculiar to their own interests, without proper coordination with the general basic research problems of the Nation.

The imperative need for greatly increasing the activities of this Nation in the field of basic research is strongly set forth by Dr. Vannevar Bush, wartime head of the Office of Scientific Research and Development, in his final report entitled "Science: The Endless Frontier":

Our national preeminence in the fields of applied research and technology should not blind us to the truth that, with respect to pure research—the discovery of fundamental new knowledge and basic scientific principles—America has occupied a secondary place. Our spectacular development of the automobile, the airplane, and radio obscures the fact that they were all based on fundamental discoveries made in nineteenth-century Europe. From Europe also came formulation of most of the laws governing the transformation of energy, the physical and chemical structure of matter, the behavior of electricity, light, and magnetism. In recent years the United States has made progress in the field of pure science, but an examination of the relevant statistics suggests that our efforts in the field of applied science have increased much faster so that the proportion of pure to applied research continues to decrease.

Several reasons make it imperative to increase pure research at this stage in our history. First, the intellectual banks of continental Europe, from which we formerly borrowed, have become bankrupt through the ravages of war. No longer can we count upon those sources for fundamental science. Second, in this modern age, more than ever before, pure research is the pacemaker of technological progress. In the nineteenth century, Yankee mechanical ingenuity, building upon the basic discoveries of European science, could greatly advance the technical arts. Today the situation is different. Future progress will be most striking in those highly complex fields—electronics, aerodynamics, chemistry—which are based directly upon the foundation of modern science. In the next generation, technological advance and basic scientific discovery will be inseparable; a nation which borrows its basic knowledge will be hopelessly handicapped in the race for innovation. The other world powers, we know, intend to foster scientific research in the future.

The foregoing facts make it apparent that the security of America requires prompt and effective action in the field of basic scientific research—in the training of manpower, in the encouragement and stimulation of basic research activities, and in the effective coordina-

tion of such activities into a sound, progressive national policy of scientific development. It is the considered belief of your committee that the enactment of S. 247, as reported, will go far toward meeting this pressing American need.

BACKGROUND OF S. 247

Over the years, a considerable number of bills designed to create a National Science Foundation have been introduced in the Congress. These bills, while they were designed to achieve the same general objectives, differed widely and fundamentally in philosophy and approach. With the passing of time, these differences have gradually been reconciled and adjusted, until today there is a broad basis of agreement as to the principal provisions which any National Science foundation legislation should contain. Those provisions are embodied in S. 247.

During the first session of the Eightieth Congress, S. 526, a bill to create a National Science Foundation was passed by both the Senate and the House. That bill was vetoed by the President on August 6, 1947. But in withholding his approval of S. 526, the President manifested his interest in the enactment of legislation of this type in these words:

I take this action with deep regret. On several occasions I have urged the Congress to enact legislation to enact a National Science Foundation. Our national security and welfare require that we give direct support to basic scientific research and take steps to increase the number of trained scientists.

He then urged the Congress to "reconsider this question and enact such a law early in the next session."

Early in the second session of the Eightieth Congress, a series of conferences, designed to reconcile the divergent views of the executive and legislative branches of the Government (as reflected in the President's memorandum of disapproval and S. 526, respectively), was conducted by a number of congressional and administration representatives. As a result of these conferences, and in the light of the most recent developments in this important field, a new National Science Foundation bill, S. 2385, was introduced in the Senate on March 25, 1948. That bill was favorably reported, with amendments, by a unanimous vote of the Labor and Public Welfare Committee on April 20, 1948, and it passed the Senate, as reported, on May 5, 1948.¹

The pending proposal, S. 247, is identical with S. 2385 as approved by the Senate in the Eightieth Congress, and it represents the culmination of the years of study and experience outlined above.

CONCLUSION

It is the considered opinion of your committee, based upon a careful investigation of the various hearings, investigations, and reports which have been devoted to this subject, that there is an impelling need for the early enactment of legislation designed to cope with the serious problems confronting this Nation in the field of basic scientific research. These problems are reflected in a serious shortage of manpower trained in the sciences, in a dearth of basic research under-

¹ On June 4, 1948, a bill similar to, but not identical with, S. 2385, was reported in the House of Representatives, but no further action was taken by that body before the final adjournment of the 80th Cong.

takings both inside and outside of the Government, and in the need for an effective stimulation and coordination of basic research programs. It is also the belief of your committee that the provisions of S. 247, based upon years of legislative investigation and experience, represent a sound and effective approach to these problems. For these reasons, your committee unanimously approves S. 247 and urgently recommends its early and prompt enactment.

ANALYSIS, BY SECTIONS, OF S. 247

SHORT TITLE

Section 1: This section provides that the act may be cited as the "National Science Foundation Act of 1949."

ESTABLISHMENT OF A NATIONAL SCIENCE FOUNDATION

Section 2: This section establishes the National Science Foundation in the executive branch of the Government as an independent agency.

MEMBERSHIP OF THE FOUNDATION

Section 3: This section provides that the Foundation shall consist of 24 members, appointed by the President by and with the advice and consent of the Senate. The members of the Foundation must be persons eminent in the fields of science, engineering, education, or public affairs, selected solely on the basis of established records of distinguished service. In making appointments, the President is requested to consider recommendations submitted to him by recognized scientific and educational associations, including the National Academy of Sciences, the Association of Land Grant Colleges and Universities, the National Association of State Universities, the Association of American Colleges, and other scientific and educational organizations.

Moreover, appointments are to be made in a manner which will provide representation of the views of scientific leaders in all areas of the Nation. The members of the Foundation shall serve for a term of 6 years, with a limit of 12 years' continuous service.

POWERS AND DUTIES OF THE FOUNDATION

Section 4: This section authorizes and directs the Foundation (1) to develop a national policy for promoting basic research and scientific education; (2) to make grants and loans for research; (3) after consultation with the Secretary of Defense, to support research for national defense; (4) to award scholarships and fellowships; (5) to foster interchange of information among scientists in the United States and foreign countries; (6) to correlate the Foundation's program with other public, and with private research; and (7) to establish such special commissions as the Foundation may from time to time deem advisable.

This section contains an admonition against geographic concentration of activities. It further provides for selection of a chairman and vice chairman by the Foundation, the submission of an annual report,

and the appointment of such committees, including an executive committee, as the Foundation deems necessary.

DIRECTOR OF THE FOUNDATION

Section 5: This section sets forth the powers and functions of the Director of the Foundation. Throughout the history of this legislation, the matter of the powers and duties of the Director and the manner of his appointment or removal has been a serious and controversial problem. The language of this section, as set forth below, represents an approach to that problem which has the support of nearly all those who have expressed an interest in the enactment of this legislation:

SEC. 5. There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate, after the members of the Foundation have been appointed and qualified. He shall serve as an ex officio member of the Foundation. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President.

DIVISIONS WITHIN THE FOUNDATION

Section 6: This section provides for four divisions within the Foundation as follows: (1) A Division of Medical Research; (2) a Division of Mathematical, Physical, and Engineering Sciences; (3) a Division of Biological Sciences; and (4) a Division of Scientific Personnel and Education, which is to be concerned with the program of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, medical, biological, engineering, and other sciences.

The following language: "There shall be within the Foundation such other divisions as the Foundation may, from time to time, deem necessary," was so phrased to permit the Foundation to explore the needs of the social sciences, and to take appropriate action.

DIVISIONAL COMMITTEES

Section 7: This section provides that there shall be a divisional committee for each division of the Foundation. These divisional committees are to be appointed by the Foundation; they are to consist of not less than five persons who may or may not be members of the Foundation. Each such committee is to make recommendations to, and advise and consult with the Foundation and the Director with respect to the program of its division.

SPECIAL COMMISSIONS

Section 8: This section authorizes the Foundation to appoint special commissions. Each such commission would "make a comprehensive survey of research both public and private being carried on in its field" and "formulate and recommend to the Foundation" an over-all research program. Previous bills made mandatory the creation of special commissions for cancer, heart disease, poliomyelitis, and certain other afflictions. Your committee has left the matter of

designating special commissions to the Foundation, in order that the Foundation may act effectively to meet pressing needs as they arise in various scientific fields.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS REGISTER OF SCIENTIFIC PERSONNEL

Section 9: This section authorizes the Director, with the approval of the Foundation, to award scholarships and fellowships to outstanding students to pursue studies in accredited nonprofit institutions of the student's own choice. Selections are to be made on the basis of ability; where ability is substantially equal among two or more contenders, selection is to be made so as to result in a wide geographical distribution of scholarships and fellowships. A roster of scientific personnel is to be maintained.

AUTHORITY OF THE FOUNDATION

Section 10: This section empowers the Foundation to do everything necessary to carry out the provisions of the act. In addition, this section specifically authorizes the Foundation to (a) make rules and regulations; (b) make expenditures; (c) enter into contracts for research within or without the United States; (d) make advance payments, progress payments, and other payments; (e) acquire and hold property; (f) receive and utilize donations; (g) disseminate information; (h) accept voluntary services; and (i) account for funds.

PATENT RIGHTS

Section 11: This section provides that each contract or other arrangement executed pursuant to the act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed, but the Foundation may not, by any contractual or other arrangement, alter or modify any provision of law affecting the issuance or use of patents. This section prohibits officers and employees of the Foundation from acquiring, retaining, or transferring any rights, under the patent laws of the United States or otherwise, in any invention which such officer or employee may make or produce in connection with the performance of his assigned activities and which is directly related to the subject matter thereof.

INTERNATIONAL COOPERATION

Section 12: This section authorizes the Foundation to cooperate in any international scientific research activities consistent with the purposes and provisions of this act. This section authorizes the Director, with the approval of the Foundation, to defray the expenses of representatives of Government agencies, other organizations, and of individual scientists in attending international scientific congresses and meetings.

APPROPRIATIONS

Section 13: This section authorizes such appropriations as may be necessary for the Foundation. Any money so appropriated, if obligated in the year of appropriation, is to remain available for expenditure for 4 years thereafter. This provision is necessary in view of the long-range nature of many of the projects which will be undertaken by the Foundation. A similar provision is contained in the act of August 1, 1946, establishing an Office of Naval Research.

GENERAL PROVISIONS

Section 14: This section provides that the Director, with the approval of the Foundation, may appoint his own Deputy Director. The Director and his deputy are to devote full time to the Foundation. Other provisions of this section include per diem allowances for members; procedures to be followed in the employment of necessary personnel; a prohibition against operating laboratories or pilot plants by the Foundation itself; a provision against encroachment on other Government activities; transfer of the National Roster of Scientific and Specialized Personnel from the Department of Labor to the Foundation at the instance of the President; denial of participation in the field of atomic energy without the concurrence of the Atomic Energy Commission, and denial of any interference with the provisions of the Atomic Energy Act; and consultation with the Secretary of Defense and thereafter publication of regulations for the security classification of information or property in connection with scientific research.

COORDINATION WITH FOREIGN POLICY

Section 15: This section requires that contractual arrangements involving foreign countries or individuals in foreign countries conform to the foreign policy of the United States. Any negotiations with foreign countries in conformation with the National Science Foundation Act are required to be carried on by the Secretary of State.





81ST CONGRESS
1ST SESSION

S. 247

[Report No. 90]

IN THE SENATE OF THE UNITED STATES

JANUARY 6, 1949

Mr. THOMAS of Utah (for himself, Mr. KILGORE, Mr. FULBRIGHT, Mr. MAGNUSON, Mr. SMITH of New Jersey, Mr. CORDON, and Mr. SALTONSTALL) introduced the following bill; which was read twice and referred to the Committee on Labor and Public Welfare

MARCH 3 (legislative day, FEBRUARY 21), 1949

Reported by Mr. THOMAS of Utah, without amendment

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Foun-
4 dation Act of 1949".

5 ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

6 SEC. 2. There is hereby established in the executive
7 branch of the Government an independent agency to be
8 known as the National Science Foundation (hereinafter
9 referred to as the "Foundation").

MEMBERSHIP OF FOUNDATION

1
2 SEC. 3. (a) The Foundation shall have twenty-four
3 members to be appointed by the President, by and with
4 the advice and consent of the Senate. The persons nom-
5 inated for appointment as members (1) shall be eminent
6 in the fields of the basic sciences, medical science,
7 engineering, education, or public affairs; (2) shall be
8 selected solely on the basis of established records of
9 distinguished service; and (3) shall be so selected as
10 to provide representation of the views of scientific leaders
11 in all areas of the Nation. The President is requested, in
12 the making of nominations of persons for appointment as
13 members, to give due consideration to any recommendations
14 for nomination which may be submitted to him by the
15 National Academy of Sciences, Association of Land Grant
16 Colleges and Universities, the National Association of State
17 Universities, Association of American Colleges, or by other
18 scientific or educational organizations.

19 (b) The term of office of each member of the Founda-
20 tion shall be six years, except that (1) any member ap-
21 pointed to fill a vacancy occurring prior to the expiration
22 of the term for which his predecessor was appointed shall
23 be appointed for the remainder of such term; and (2) the
24 terms of office of the members first taking office after the
25 date of enactment of this Act shall expire, as designated

1 by the President at the time of appointment, eight at the
2 end of two years, eight at the end of four years, eight at
3 the end of six years, after the date of enactment of this
4 Act. Any person who has been a member of the Founda-
5 tion for twelve consecutive years shall thereafter be ineligible
6 for appointment during the two-year period following the
7 expiration of such twelfth year.

8 (c) The President shall call the first meeting of the
9 members of the Foundation, at which the first order of
10 business shall be the election of a chairman and a vice
11 chairman.

12 POWERS AND DUTIES OF THE FOUNDATION

13 SEC. 4. (a) The Foundation is authorized and directed—

14 (1) to develop and encourage the pursuit of a na-
15 tional policy for the promotion of basic research and edu-
16 cation in the sciences;

17 (2) to initiate and support basic scientific research
18 in the mathematical, physical, medical, biological, engi-
19 neering, and other sciences, by making contracts or other
20 arrangements (including grants, loans, and other forms
21 of assistance) for the conduct of such basic scientific
22 research and to appraise the impact of research upon
23 industrial development and upon the general welfare;

24 (3) after consultation with the Secretary of De-
25 fense, to initiate and support scientific research in con-

1 nection with matters relating to the national defense
2 by making contracts or other arrangements (including
3 grants, loans, and other forms of assistance) for the
4 conduct of such scientific research;

5 (4) to grant scholarships and graduate fellowships
6 in the mathematical, physical, medical, biological, engi-
7 neering, and other sciences;

8 (5) to foster the interchange of scientific informa-
9 tion among scientists in the United States and foreign
10 countries;

11 (6) to correlate the Foundation's scientific research
12 programs with those undertaken by individuals and by
13 public and private research groups; and

14 (7) to establish such special commissions as the
15 Foundation may from time to time deem necessary
16 for the purposes of this Act.

17 (b) In exercising the authority and discharging the
18 functions referred to in subsection (a) of this section, it
19 shall be the objective of the Foundation to achieve the
20 results of scientific research in the most efficient manner
21 possible and to strengthen basic research and education in
22 the sciences, including independent research by individuals,
23 throughout the United States, including its Territories and
24 possessions, and to avoid undue concentration of such re-
25 search and education.

1 (c) The members of the Foundation shall meet
2 annually on the first Monday in December and at such other
3 times as the Chairman may determine, but he shall also
4 call a meeting whenever one-third of the members so request
5 in writing. A majority of the members of the Foundation
6 shall constitute a quorum. Each member shall be given
7 notice, by registered mail mailed to his last-known address
8 of record not less than fifteen days prior to any meeting,
9 of the call of such meeting.

10 (d) The first Chairman and Vice Chairman of the
11 Foundation shall be elected by the Foundation to serve
12 until the first Monday in December next succeeding the
13 date of election at which time a Chairman and Vice Chair-
14 man shall be elected for a term of two years. Thereafter
15 such election shall take place at the annual meeting occur-
16 ring at the end of each such term. The Vice Chairman
17 shall perform the duties of the Chairman in his absence. In
18 case a vacancy occurs in the chairmanship or vice chairman-
19 ship, the Foundation shall elect a member to fill such
20 vacancy.

21 (e) The Foundation is authorized to appoint from
22 among its members, an Executive Committee and from time
23 to time to appoint from among its members or otherwise,
24 such other committees as it deems necessary and to assign
25 to such Executive Committee or other committees such

1 powers and functions as it deems appropriate for the pur-
2 poses of this Act.

3 (f) The Foundation shall render an annual report
4 to the President for submission on or before the 15th day
5 of January to the Congress, summarizing the activities of
6 the Foundation and making such recommendations as it
7 may deem appropriate.

8 DIRECTOR OF FOUNDATION

9 SEC. 5. There shall be a Director of the Foundation
10 who shall be appointed by the President by and with the
11 advice and consent of the Senate, after the members of the
12 Foundation have been appointed and qualified. He shall
13 serve as an ex officio member of the Foundation. In addition
14 thereto he shall be the chief executive officer of the Founda-
15 tion. The Director shall receive compensation at the rate
16 of \$15,000 per annum and shall serve for a term of six years
17 unless sooner removed by the President.

18 DIVISIONS WITHIN THE FOUNDATION

19 SEC. 6. (a) Until otherwise provided by the Founda-
20 tion there shall be within the Foundation the following
21 divisions:

22 (1) A Division of Medical Research;

23 (2) A Division of Mathematical, Physical, and En-
24 gineering Sciences;

25 (3) A Division of Biological Sciences; and

1 (4) A Division of Scientific Personnel and Education,
2 which shall be concerned with programs of the Foundation
3 relating to the granting of scholarships and graduate fellow-
4 ships in the mathematical, physical, medical, biological, en-
5 gineering, and other sciences.

6 (b) There shall also be within the Foundation such
7 other divisions as the Foundation may, from time to time,
8 deem necessary.

9 DIVISIONAL COMMITTEES

10 SEC. 7. (a) There shall be a committee for each divi-
11 sion of the Foundation.

12 (b) Each divisional committee shall be appointed by
13 the Foundation and shall consist of not less than five persons
14 who may be members or nonmembers of the Foundation.

15 (c) The terms of members of each divisional com-
16 mittee shall be two years. Each divisional committee shall
17 annually elect its own chairman from among its own mem-
18 bers, and shall prescribe its own rules of procedure, subject
19 to such restrictions as may be prescribed by the Foundation.

20 (d) Each divisional committee shall make recom-
21 mendations to, and advise and consult with, the Foundation
22 and the Director with respect to matters relating to the
23 program of its division.

24 SPECIAL COMMISSIONS

25 SEC. 8. (a) Each special commission established by

1 the Foundation pursuant to section 4 (a) (7) shall consist
2 of eleven members appointed by the Foundation, six of
3 whom shall be eminent scientists and five of whom shall be
4 persons other than scientists. Each special commission shall
5 choose its own chairman and vice chairman.

6 (b) It shall be the duty of each such special commis-
7 sion to make a comprehensive survey of research, both
8 public and private, being carried on in its field, and to
9 formulate and recommend to the Foundation, at the earliest
10 practicable date, an over-all research program in its field.

11 SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER
12 OF SCIENTIFIC PERSONNEL

13 SEC. 9. (a) The Director, with the approval of the
14 Foundation, is authorized to award, within the limits of funds
15 made available pursuant to section 13, scholarships and
16 graduate fellowships for scientific study or scientific work in
17 the mathematical, physical, medical, biological, engineering,
18 and other sciences at accredited nonprofit American or non-
19 profit foreign institutions of higher education, selected by
20 the recipient of such aid, for stated periods of time. Persons
21 shall be selected for such scholarships and fellowships from
22 among citizens of the United States, and such selections shall
23 be made solely on the basis of ability; but in any case in
24 which two or more applicants for scholarships or fellowships,
25 as the case may be, are deemed by the Director and

1 the Foundation to be possessed of substantially equal
2 ability, and there are not sufficient scholarships or fellowships,
3 as the case may be, available to grant one to each of such
4 applicants, the available scholarship or scholarships or
5 fellowship or fellowships shall be awarded to the applicants
6 in such manner as will tend to result in a wide distribution
7 of scholarships and fellowships among the States, Territories,
8 possessions, and the District of Columbia.

9 (b) The Foundation shall maintain a register of sci-
10 entific and technical personnel and in other ways provide a
11 central clearinghouse for information covering all scientific
12 and technical personnel in the United States and its
13 possessions.

14 AUTHORITY OF FOUNDATION

15 SEC. 10. The Foundation is empowered to do all things
16 necessary to carry out the provisions of this Act, and with-
17 out being limited thereby, the Foundation is specifically
18 authorized—

19 (a) to prescribe such rules and regulations as
20 it deems necessary governing the manner of its opera-
21 tions and its organization and personnel;

22 (b) to make such expenditures as may be necessary
23 for administering the provisions of this Act;

24 (c) to enter into contracts or other arrangements,

1 or modifications thereof, for the carrying on, by organ-
2 izations or individuals in the United States and foreign
3 countries, including other government agencies of the
4 United States and of foreign countries (without legal
5 consideration, without performance or other bonds, and
6 without regard to section 3709 of the Revised Statutes),
7 of such basic scientific research activities as the Founda-
8 tion deems necessary to carry out the purposes of this
9 Act;

10 (d) to make advance, progress, and other pay-
11 ments which relate to scientific research without regard
12 to the provisions of section 3648 of the Revised Statutes
13 (31 U. S. C., sec. 529) ;

14 (e) to acquire by purchase, lease, loan, or gift,
15 and to hold and dispose of by sale, lease, or loan, real
16 and personal property of all kinds necessary for, or re-
17 sulting from, scientific research;

18 (f) to receive and use funds donated by others,
19 if such funds are donated, without restriction, other than
20 that they be used in furtherance of one or more of the
21 general purposes of the Foundation;

22 (g) to publish or arrange for the publication of
23 scientific and technical information so as to further
24 the full dissemination of information of scientific value
25 consistent with the national interest, without regard to

1 the provisions of section 87 of the Act of January 12,
2 1895 (28 Stat. 622), and section 11 of the Act of
3 March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111) :

4 (h) to accept and utilize the services of volun-
5 tary and uncompensated personnel and to pay the actual
6 and necessary traveling and subsistence expenses (in-
7 cluding, in lieu of subsistence, per diem allowances at
8 a rate not in excess of \$10 for such personnel incurred
9 in the course of such services) ; and

10 (i) to prescribe, with the approval of the Comp-
11 troller General of the United States, the extent to
12 which vouchers for funds expended under contracts for
13 scientific research shall be subject to itemization or sub-
14 stantiation prior to payment, without regard to the limi-
15 tations of other laws relating to the expenditure of
16 public funds and accounting therefor.

17 PATENT RIGHTS

18 SEC. 11. (a) Each contract or other arrangement exe-
19 cuted pursuant to this Act which relates to scientific research
20 shall contain provisions governing the disposition of inven-
21 tions produced thereunder in a manner calculated to protect
22 the public interest and the equities of the individual or
23 organization with which the contract or other arrangement
24 is executed: *Provided, however,* That nothing in this Act
25 shall be construed to authorize the Foundation, by any con-

1 tractual or other arrangement, to alter or modify any pro-
2 vision of law affecting the issuance or use of patents.

3 (b) No officer or employee of the Foundation shall
4 acquire, retain, or transfer any rights, under the patent laws
5 of the United States or otherwise, in any invention which
6 he may make or produce in connection with performing his
7 assigned activities and which is directly related to the subject
8 matter thereof: *Provided, however,* That this subsection
9 shall not be construed to prevent any officer or employee of
10 the Foundation from executing any application for patent
11 on any such invention for the purpose of assigning the same
12 to the Government or its nominee in accordance with such
13 rules and regulations as the Director may establish.

14 INTERNATIONAL COOPERATION

15 SEC. 12. (a) The Foundation is hereby authorized
16 to cooperate in any international scientific research activities
17 consistent with the purposes of this Act and to expend for
18 such international scientific research activities such sums
19 within the limit of appropriated funds as the Foundation may
20 deem desirable.

21 (b) The Director, with the approval of the Founda-
22 tion, may defray the expenses of representatives of Gov-
23 ernment agencies and other organizations and of individual
24 scientists to accredited international scientific congresses and

1 meetings whenever he deems it necessary in the promotion
2 of the objectives of this Act.

3 APPROPRIATIONS

4 SEC. 13. (a) To enable the Foundation to carry out
5 its powers and duties, there is hereby authorized to be
6 appropriated annually to the Foundation, out of any money
7 in the Treasury not otherwise appropriated, such sums as
8 may be necessary to carry out the provisions of this Act.

9 (b) The funds hereafter appropriated to the Founda-
10 tion, as herein authorized, shall, if obligated during the fiscal
11 year for which appropriated, remain available for expendi-
12 ture for four years following the expiration of the fiscal year
13 for which appropriated. After such four-year period, the
14 unexpended balances of appropriations shall be carried to
15 the surplus fund and covered into the Treasury.

16 GENERAL PROVISIONS

17 SEC. 14. (a) The Director shall, in accordance with
18 such policies as the Foundation shall from time to time
19 prescribe, appoint and fix the compensation of such per-
20 sonnel as may be necessary to carry out the provisions of
21 this Act. Such appointments shall be made and such com-
22 pensation shall be fixed in accordance with the provisions
23 of the civil-service laws and regulations and the Classification
24 Act of 1923, as amended: *Provided*, That the Director

1 may in accordance with such policies as the Foundation shall
2 from time to time prescribe, employ such technical and
3 professional personnel and fix their compensation, with-
4 out regard to such laws, as he may deem necessary
5 for the discharge of the responsibilities of the Founda-
6 tion under this Act. The Deputy Director herein-
7 after provided for, and the members of the divisional
8 committees, and special commissions, shall be appointed with-
9 out regard to the civil-service laws or regulations. Neither
10 the Director nor the Deputy Director shall engage in any
11 other business, vocation, or employment than that of serving
12 as such Director or Deputy Director, as the case may be;
13 nor shall the Director or Deputy Director, except with the
14 approval of the Foundation, hold any office in, or act in
15 any capacity for, any organization, agency, or institution
16 with which the Foundation makes any contract or other
17 arrangement under this Act.

18 (b) The Director may appoint, with the approval of
19 the Foundation, a Deputy Director who shall perform such
20 functions as the Director, with the approval of the Founda-
21 tion, may prescribe and shall be Acting Director during
22 the absence or disability of the Director or in the event of
23 a vacancy in the Office of the Director, and who shall receive
24 compensation at a rate not to exceed \$12,000 per annum.

1 (c) The Foundation shall not, itself, operate any labora-
2 tories or pilot plants.

3 (d) The members of the Foundation, and the members
4 of each divisional committee, or special commission, shall
5 receive compensation at the rate of \$25 for each day
6 engaged in the business of the Foundation pursuant to
7 authorization of the Foundation, and shall be allowed actual
8 and necessary traveling and subsistence expenses (including,
9 in lieu of subsistence, per diem allowances at a rate not in
10 excess of \$10) when engaged, away from home, in the
11 duties of their offices.

12 (e) Persons holding other offices in the executive
13 branch of the Federal Government may serve as members of
14 the divisional committees, and special commissions, but they
15 shall not receive remuneration for their services as such
16 members during any period for which they receive com-
17 pensation for their services in such other offices.

18 (f) Service of an individual as a member of the Founda-
19 tion, of a divisional committee, or of a special commission
20 shall not be considered as service bringing him within the
21 provisions of section 109 or section 113 of the Criminal
22 Code (U. S. C., 1940 edition, title 18, secs. 198 and 203)
23 or section 19 (e) of the Contract Settlement Act of
24 1944, unless the act of such individual, which by such

1 section is made unlawful when performed by an individual
2 referred to in such section, is with respect to any particular
3 matter which directly involves the Foundation or in which
4 the Foundation is directly interested.

5 (g) In making contracts or other arrangements for
6 scientific research, the Foundation shall utilize appropria-
7 tions available therefor in such manner as will in its discre-
8 tion best realize the objectives of (1) having the work
9 performed by organizations, agencies, and institutions, or
10 individuals in the United States or foreign countries, includ-
11 ing Government agencies of the United States and of foreign
12 countries, qualified by training and experience to achieve the
13 results desired, (2) strengthening the research staff of organ-
14 izations, particularly nonprofit organizations, in the States
15 and Territories and the District of Columbia, and (3) aiding
16 institutions, agencies or organizations which, if aided, will
17 advance basic research, and (4) encouraging independent
18 basic research by individuals.

19 (h) The activities of the Foundation shall be con-
20 strued as supplementing and not superseding, curtailing, or
21 limiting any of the functions or activities of other Govern-
22 ment agencies authorized to engage in scientific research or
23 development.

24 (i) Funds available to any department or agency of

1 the Government for scientific or technical research, or the
2 provision of facilities therefor, shall be available for transfer,
3 with the approval of the head of the department or agency
4 involved, in whole or in part, to the Foundation for such use
5 as is consistent with the purposes for which such funds were
6 provided, and funds so transferred shall be expendable by
7 the Foundation for the purposes for which the transfer was
8 made, and, until such time as an appropriation is made avail-
9 able directly to the Foundation, for general administrative
10 expenses of the Foundation without regard to limitations
11 otherwise applicable to such funds.

12 (j) The National Roster of Scientific and Specialized
13 Personnel shall be transferred from the Department of
14 Labor to the Foundation, together with such of the per-
15 sonnel, records, property, and balances of appropriations as
16 have been utilized or are available for use in the adminis-
17 tration of such roster as may be determined by the President.
18 The transfer provided for in this subsection shall take effect
19 at such time or times as the President shall direct.

20 (k) The Foundation shall not support any research
21 or development activity in the field of atomic energy, nor
22 shall it exercise any authority pursuant to section 10 (e)
23 in respect to that field, without first having obtained the
24 concurrence of the Atomic Energy Commission that such

1 activity will not adversely affect the common defense and
2 security. Nothing in this Act shall supersede or modify
3 any provision of the Atomic Energy Act of 1946.

4 (1) The Foundation, after consultation with the Secre-
5 tary of Defense, shall establish regulations and procedures
6 for the security classification of information or property
7 (having military significance) in connection with scientific
8 research under this Act, and for the proper safeguarding of
9 any information or property so classified.

10 COORDINATION WITH FOREIGN POLICY

11 SEC. 15. (a) The authority to enter into contracts or
12 other arrangements with organizations or individuals in for-
13 eign countries and with agencies of foreign countries, as pro-
14 vided in section 10 (c), and the authority to cooperate in
15 international scientific research activities as provided in sec-
16 tion 12 (a), shall be exercised in such manner as is con-
17 sistent with the foreign policy objectives of the United States
18 as determined by the Secretary of State after consultation
19 with the Director.

20 (b) If, in the exercise of the authority referred to in
21 subsection (a) to carry out the purposes of this Act, negotia-
22 tion with foreign countries or agencies thereof becomes neces-

1 sary, such negotiation shall be carried on by the Secretary
2 of State in consultation with the Director.

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

By Mr. THOMAS of Utah, Mr. KUGORE, Mr. FULBRIGHT, Mr. MAGNUSON, Mr. SMITH of New Jersey, Mr. CORDON, and Mr. SALMONSTALL

JANUARY 6, 1949

Read twice and referred to the Committee on Labor and Public Welfare

MARCH 3 (legislative day, FEBRUARY 21), 1949

Reported without amendment



Mr. ANDERSON. The Secretary can prescribe the same conditions for all loans.

Mr. CORDON. I think it should be required in the bill.

Mr. ANDERSON. The bill will have to go to conference, and there will be an opportunity to include such a provision. I agree with the Senator's point.

Mr. CORDON. Mr. President, I ask that the bill go over.

Mr. O'MAHONEY. Mr. President, will the Senator withhold his objection for a moment?

Mr. CORDON. Yes, certainly.

Mr. O'MAHONEY. I ask the Senator from Oregon to direct his attention to the language to which he has just referred, on page 4, line 25. May I ask the Senator, if the word "general" should be inserted between the word "such" and the word "terms", would it not meet his objection? I know the purpose of the bill was to provide that the terms should be general, and on no occasion would there be one rate and conditions for one and a different rate and conditions for another.

Mr. CORDON. Mr. President, so far as I am concerned, the insertion which has been referred to by the Senator from Wyoming would cure the situation which I had in mind.

Mr. TAFT. Mr. President, will the Senator yield?

The VICE PRESIDENT. The amendment cannot be offered so long as there is any objection or reservation to the consideration of the bill.

Mr. TAFT. Mr. President, I suggest inserting this language after the word "prescribe" at the top of page 5:

For such area or region.

Or some such language as that, so that we can distinguish between them.

Mr. O'MAHONEY. I think the Senator's suggestion is a very good one.

Mr. TAFT. The language suggested by the Senator did not seem to me to reach the point.

Mr. CORDON. Mr. President, I have one more inquiry to address to the Senator from New Mexico. In section 2 (a) the Secretary is authorized to make loans to farmers and stockmen for any agricultural purpose in any area or region where he finds that a production disaster has caused a need for agricultural credit not readily available from commercial banks, and so forth. Does the Senator think that makes the absolute unavailability of local credit a condition precedent for the loan?

Mr. ANDERSON. I would suggest that would require an investigation of all sorts of lending agencies. I would not object to it.

Mr. CORDON. Mr. President, I withdraw my objection if that correction is made.

Mr. MAGNUSON. Mr. President, reserving the right to object, I want to ask the Senator from New Mexico one further question. If there should occur in the Wenatchee area a similar situation, could the same type of loan be made, under the terms of this bill, as was made under RACC?

Mr. ANDERSON. Exactly.

Mr. FREAR. Mr. President, reserving the right to object, I should like to ask a question. Did I correctly understand the Senator from New Mexico to say that RACC would go out of existence with the passage of this bill?

Mr. ANDERSON. The functions which that agency has been performing would be transferred to the Secretary of Agriculture, and the Corporation, as such, would go out of existence.

Mr. FREAR. Under what department would it come?

Mr. ANDERSON. Under the Farm Credit Administration.

Mr. FREAR. I thank the Senator.

The VICE PRESIDENT. Is there objection to consideration of the bill?

There being no objection, the Senate proceeded to consider the bill (H. R. 2101) to authorize the Regional Agricultural Credit Corporation of Washington, D. C., to make certain disaster or emergency loans, and for other purposes, which had been reported from the Committee on Agriculture and Forestry, with an amendment, to strike out all after the enacting clause and to insert:

That (a) there are hereby transferred to the Secretary of Agriculture (hereinafter referred to as the Secretary) all the functions of the Regional Agricultural Credit Corporation of Washington, D. C., including but not limited to functions with respect to—

(1) loans to bona fide fur farmers as provided for in the last proviso in the paragraph headed "Regional Agricultural Credit Corporation of Washington, D. C.," in title II of the Government Corporations Appropriation Act, 1949 (Public Law 860, 80th Cong.);

(2) loans under authorization by the Secretary for the Regional Agricultural Credit Corporation of Washington, D. C., to reenter an area or region where a production disaster has occurred, as provided for in the proviso in section 2 of the Department of Agriculture Appropriation Act, 1949 (Public Law 712, 80th Cong.); and

(3) the liquidation of all other loans heretofore made by the Regional Agricultural Credit Corporation of Washington, D. C., and of all assets, contracts, property, claims, rights, and liabilities relating thereto.

(b) There are hereby transferred to the Secretary the functions of the Farm Credit Administration and the Governor thereof with respect to the Regional Agricultural Credit Corporation of Washington, D. C.

(c) The Regional Agricultural Credit Corporation of Washington, D. C., is hereby dissolved. The Secretary of the Treasury shall cancel the outstanding certificates of stock of the Corporation.

(d) All assets, funds, contracts, property, claims, and rights, all records, and all liabilities of the Corporation are hereby transferred to the Secretary. The revolving fund created by section 84 of the Farm Credit Act of 1933, as amended (12 U. S. C. 1148a), shall be available to the Secretary for the performance of the functions specified in paragraphs (a) (1), (2), and (3) of the section, including administrative expenses in connection therewith: *Provided*, That for the fiscal year 1949 the limitations on the administrative expenses of the Corporation with respect to the said functions shall be applicable to the Secretary.

(e) All personnel of the Corporation (excluding personnel of the Farm Credit Administration serving as directors or officers of the Corporation), and such of the personnel of the Farm Credit Administration as are engaged principally in the work of the Corporation, shall be transferred to the offices

or agencies designated by the Secretary to carry out the functions herein transferred, to the extent that he determines that such personnel are qualified and necessary therefor.

(f) The Secretary may carry out the functions herein transferred and the authority conferred upon him by this act through such officers or agencies in or under the Department of Agriculture as he may designate.

Sec. 2. (a) The Secretary is hereby authorized to make loans to farmers and stockmen for any agricultural purpose in any area or region where he finds that a production disaster has caused a need for agricultural credit not readily available from commercial banks, cooperative lending agencies, or other responsible sources. Such loans shall be made at such rates of interest and on such terms and conditions as the Secretary shall prescribe. The Secretary may utilize the revolving fund created by section 84 of the Farm Credit Act of 1933, as amended (12 U. S. C. 1148a), for making such loans and for administrative expenses in connection with such loans.

(b) The funds transferred to the Secretary under section 1 of this act, and all sums received by the Secretary from the liquidation of the assets, contracts, property, claims, and rights transferred to him under section 1 of this act, from the liquidation of loans made under section 2 of this act, and from the liquidation of any other assets acquired with funds from the said revolving fund shall be added to and become a part of the said revolving fund; and the revolving fund as so constituted shall remain available to the Secretary only for the purposes specified in sections 1 (d) and 2 (a) of this act.

Sec. 3. (a) No suit or other judicial proceeding instituted by or against the Regional Agricultural Credit Corporation of Washington, D. C., shall abate by reason of this act, but the Secretary may be substituted as a party in place of the Corporation upon motion or petition filed within 6 months after the effective date of this act.

(b) This act shall become effective 10 days after its enactment.

Mr. O'MAHONEY. Mr. President, I offer the amendment which I suggested in the colloquy with the Senator from Oregon, as modified by the suggestion of the Senator from Ohio [Mr. Taft], so that the sentence beginning on line 24, page 4, shall read as follows:

Such loans shall be made at such rates of interest and on such general terms and conditions as the Secretary shall prescribe for such area or region.

The amendment was agreed to.

The amendment as amended was agreed to.

The amendments were ordered to be engrossed, and the bill to be read a third time.

The bill was read the third time, and passed.

The title was amended so to read: "An act to abolish the Regional Agricultural Credit Corporation of Washington, D. C., and transfer its functions to the Secretary of Agriculture to authorize the Secretary of Agriculture to make disaster loans, and for other purposes."

Mr. ANDERSON subsequently said: Mr. President, I move that the Senate insist on its amendments, request a conference with the House of Representatives thereon, and that the Chair appoint the conferees on the part of the Senate.

The motion was agreed to; and the Vice President appointed Mr. THOMAS of

Klahoma, Mr. ELLENDER, Mr. ANDERSON, Mr. AIKEN, and Mr. YOUNG conferees on the part of the Senate.

PROMOTION OF THE PROGRESS OF SCIENCE

The bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, was considered, ordered to be engrossed for a third reading, read the third time, and passed, as follows:

Be it enacted, etc., That this act may be cited as the "National Science Foundation Act of 1949."

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation").

MEMBERSHIP OF FOUNDATION

SEC. 3. (a) The Foundation shall have 24 members to be appointed by the President, by and with the advice and consent of the Senate. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, Association of Land Grant Colleges and Universities, the National Association of State Universities, Association of American Colleges, or by other scientific or educational organizations.

(b) The term of office of each member of the Foundation shall be 6 years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this act shall expire, as designated by the President at the time of appointment, eight at the end of 2 years, eight at the end of 4 years, eight at the end of 6 years, after the date of enactment of this act. Any person who has been a member of the Foundation for 12 consecutive years shall thereafter be ineligible for appointment during the 2-year period following the expiration of such twelfth year.

(c) The President shall call the first meeting of the members of the Foundation, at which the first order of business shall be the election of a chairman and a vice chairman.

POWERS AND DUTIES OF THE FOUNDATION

SEC. 4. (a) The Foundation is authorized and directed—

(1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(2) to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

(3) after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating

to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

(4) to grant scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups; and

(7) to establish such special commissions as the Foundation may from time to time deem necessary for the purposes of this act.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be the objective of the Foundation to achieve the results of scientific research in the most efficient manner possible and to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

(c) The members of the Foundation shall meet annually on the first Monday in December and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the members of the Foundation shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record, not less than 15 days prior to any meeting, of the call of such meeting.

(d) The first Chairman and Vice Chairman of the Foundation shall be elected by the Foundation to serve until the first Monday in December next succeeding the date of election, at which time a Chairman and Vice Chairman shall be elected for a term of 2 years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Foundation shall elect a member to fill such vacancy.

(e) The Foundation is authorized to appoint from among its members an executive committee, and from time to time to appoint from among its members, or otherwise, such other committees as it deems necessary, and to assign to such executive committee or other committees such powers and functions as it deems appropriate for the purposes of this act.

(f) The Foundation shall render an annual report to the President for submission on or before the 15th day of January to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate.

DIRECTOR OF FOUNDATION

SEC. 5. There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate, after the members of the Foundation have been appointed and qualified. He shall serve as an ex-officio member of the Foundation. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of 6 years unless sooner removed by the President.

DIVISIONS WITHIN THE FOUNDATION

SEC. 6. (a) Until otherwise provided by the Foundation, there shall be within the Foundation the following divisions:

(1) A Division of Medical Research;

(2) A Division of Mathematical, Physical, and Engineering Sciences;

(3) A Division of Biological Sciences; and

(4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

(b) There shall also be within the Foundation such other divisions as the Foundation may, from time to time, deem necessary.

DIVISIONAL COMMITTEES

SEC. 7. (a) There shall be a committee for each division of the Foundation.

(b) Each divisional committee shall be appointed by the Foundation and shall consist of not less than five persons who may be members or nonmembers of the Foundation.

(c) The terms of members of each divisional committee shall be 2 years. Each divisional committee shall annually elect its own chairman from among its own members, and shall prescribe its own rules of procedure, subject to such restrictions as may be prescribed by the Foundation.

(d) Each divisional committee shall make recommendations to, and advise and consult with, the Foundation and the Director with respect to matters relating to the program of its division.

SPECIAL COMMISSIONS

SEC. 8. (a) Each special commission established by the Foundation pursuant to section 4 (a) (7) shall consist of 11 members appointed by the Foundation, 6 of whom shall be eminent scientists and 5 of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.

(b) It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being carried on in its field, and to formulate and recommend to the Foundation, at the earliest practicable date, an over-all research program in its field.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER OF SCIENTIFIC PERSONNEL

SEC. 9. (a) The Director, with the approval of the Foundation, is authorized to award, within the limits of funds made available pursuant to section 13, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Director and the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.

(b) The Foundation shall maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States and its possessions.

AUTHORITY OF FOUNDATION

SEC. 10. The Foundation is empowered to do all things necessary to carry out the provisions of this act, and without being limited

thereby, the Foundation is specifically authorized—

(a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;

(b) to make such expenditures as may be necessary for administering the provisions of this act;

(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries (without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes), of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this act;

(d) to make advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, scientific research;

(f) to receive and use funds donated by others, if such funds are donated, without restriction, other than that they be used in furtherance of one or more of the general purposes of the Foundation;

(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the act of January 12, 1895 (28 Stat. 622), and section 11 of the act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to pay the actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10 for such personnel incurred in the course of such services); and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 11. (a) Each contract or other arrangement executed pursuant to this act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however*, That nothing in this act shall be construed to authorize the Foundation, by any contractual or other arrangement, to alter or modify any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however*, That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its

nominee in accordance with such rules and regulations as the Director may establish.

INTERNATIONAL COOPERATION

SEC. 12. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable.

(b) The Director, with the approval of the Foundation, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this act.

APPROPRIATIONS

SEC. 13. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated annually to the Foundation, out of any money in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this act.

(b) The funds hereafter appropriated to the Foundation, as herein authorized, shall, if obligated during the fiscal year for which appropriated, remain available for expenditure for 4 years following the expiration of the fiscal year for which appropriated. After such 4-year period, the unexpended balances of appropriations shall be carried to the surplus fund and covered into the Treasury.

GENERAL PROVISIONS

SEC. 14. (a) The Director shall, in accordance with such policies as the Foundation shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended: *Provided*, That the Director may in accordance with such policies as the Foundation shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this act. The Deputy Director hereinafter provided for, and the members of the divisional committees, and special commissions, shall be appointed without regard to the civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of the Foundation, hold any office in, or act in any capacity for, any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this act.

(b) The Director may appoint, with the approval of the Foundation, a Deputy Director who shall perform such functions as the Director, with the approval of the Foundation, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director, and who shall receive compensation at a rate not to exceed \$12,000 per annum.

(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

(d) The members of the Foundation, and the members of each divisional committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation pursuant to authorization of the Founda-

tion, and shall be allowed actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10) when engaged, away from home, in the duties of their offices.

(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees, and special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(f) Service of an individual as a member of the Foundation, of a divisional committee, or of a special commission shall not be considered as service bringing him within the provisions of section 109 or section 113 of the Criminal Code (U. S. C., 1940 ed., title 18, sec. 198 and 203) or section 19 (e) of the Contract Settlement Act of 1944, unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly nonprofit organizations, in the States and Territories and the District of Columbia, and (3) aiding institutions, agencies or organizations which, if aided, will advance basic research, and (4) encouraging independent basic research by individuals.

(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development.

(i) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

(j) The National Roster of Scientific and Specialized Personnel shall be transferred from the Department of Labor to the Foundation, together with such of the personnel, records, property, and balances of appropriations as have been utilized or are available for use in the administration of such roster as may be determined by the President. The transfer provided for in this subsection shall take effect at such time or times as the President shall direct.

(k) The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 10 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not

adversely affect the common defense and security. Nothing in this act shall supersede or modify any provision of the Atomic Energy Act of 1946.

(1) The Foundation, after consultation with the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under this act, and for the proper safeguarding of any information or property so classified.

COORDINATION WITH FOREIGN POLICY

Sec. 15. (a) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 10 (c), and the authority to cooperate in international scientific research activities as provided in section 12 (a), shall be exercised in such manner as is consistent with the foreign policy objectives of the United States as determined by the Secretary of State after consultation with the Director.

(b) If, in the exercise of the authority referred to in subsection (a) to carry out the purposes of this act, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

IMPORT TAXES ON COPPER

The bill (H. R. 2313) to suspend certain import taxes on copper, was announced as next in order.

The VICE PRESIDENT. Is there objection to the consideration of the bill?

Mr. MAGNUSON. I should like to have an explanation of the bill.

Mr. MALONE. Over.

Mr. GEORGE. Mr. President, I hope the Senator will withhold his objection, because I should like to make a statement.

The VICE PRESIDENT. Will the Senator from Nevada withhold his objection?

Mr. MALONE. Certainly.

Mr. GEORGE. Mr. President, in the Eightieth Congress the ad valorem duty on copper and copper ores, and so forth, was suspended for a period of 2 years; that is to say, the suspension will run through March 31, 1949. The House has passed a bill further suspending the ad valorem duty for an additional 2-year period, and I call attention to the fact that since the present act will expire on the 31st day of March 1949, this is one of the bills which has a deadline. The bill is of no small consequence because of the fact that the copper supply in the United States is below the domestic requirements, and particularly is below the 15,000 pounds now being added monthly to the stock pile.

I hope that the Senator from Illinois will permit a motion to be made to take up the bill at the conclusion of the call of the calendar. I realize that it cannot be discussed under the 5-minute rule, and objection has been made. I should like to have the bill considered.

The VICE PRESIDENT. The Chair understands the Senator from Georgia to ask that the bill go to the foot of the calendar.

Mr. McMAHON. Mr. President, will the Senator from Illinois withhold his objection?

Mr. LUCAS. I am not objecting to the bill.

The VICE PRESIDENT. Objection was made by the Senator from Nevada [Mr. MALONE].

Mr. LUCAS. Mr. President, I may say that this is an emergency matter, and when the call of the calendar is concluded, I hope the Senator from Georgia will move to take up the bill and have the Senate act on it.

The VICE PRESIDENT. It is not necessary for the bill to go to the foot of the calendar in order that a motion may be made to take it up.

Mr. GEORGE. I did not ask that it go to the foot of the calendar. I merely asked for permission to bring the bill up, or make a motion to bring it up.

The VICE PRESIDENT. The clerk will state the next bill on the calendar.

BILL PASSED OVER

The bill (S. 110) to broaden the cooperative extension system as established in the act of May 8, 1914, and acts supplemental thereto, by providing for cooperative extension work between colleges receiving the benefits of this act and the acts of July 2, 1862, and August 30, 1890, and other qualified colleges, universities, and research agencies, and the United States Department of Labor, was announced as next in order.

SEVERAL SENATORS. Over.

The VICE PRESIDENT. The bill will be passed over.

PAY AND ALLOWANCES TO OFFICERS OF THE NAVAL ESTABLISHMENT

The bill (S. 779) relating to the pay and allowances of officers of the Naval Establishment appointed to permanent grades was announced as next in order.

Mr. McCARRAN. Over.

Mr. BYRD. Mr. President, will the Senator withhold his objection to permit an explanation?

Mr. McCARRAN. Certainly.

Mr. BYRD. Mr. President, the purpose of the bill is to prevent the creation of claims for back pay and allowances due to the readjustment in lineal precedence of officers of the Navy, Marine Corps, and their Reserves required by the Officer Personnel Act of 1947. There was an ambiguity in the act of 1947, and the purpose of the bill is to clear up the ambiguity so that claims will not be filed for back pay and allowances.

Mr. LODGE. Mr. President, will the Senator from Virginia yield?

Mr. BYRD. I yield.

Mr. LODGE. Does this bill see to it that these rates of pay are thoroughly harmonized with the rates of pay in the Army and the Air Force?

Mr. BYRD. Yes.

Mr. LODGE. It does not promote any inequalities or inequities?

Mr. BYRD. In fact, it would correct inequalities by clearing up an ambiguity which existed in the act of 1947.

Mr. McCARRAN. Mr. President, does the bill deal with an increase in pay all the way through the military forces?

Mr. BYRD. Not at all; it has just the opposite purpose. It would prevent claims for back pay and allowances.

Mr. McCARRAN. Is that all there is in the bill?

Mr. BYRD. That is all there is in the bill.

Mr. McCARRAN. I withdraw the objection.

The VICE PRESIDENT. Is there objection to the consideration of the bill?

There being no objection, the Senate proceeded to consider the bill, which was ordered to be engrossed for a third reading, read the third time, and passed, as follows:

Be it enacted, etc., That permanent appointments issued after August 7, 1947, to officers of the Navy, Marine Corps, and Reserve components thereof, incident to the transition from temporary to permanent grades, shall in no case be effective for pay purposes prior to August 7, 1947, irrespective of the date of rank assigned for precedence purposes and notwithstanding the provisions of section 312 of the Naval Reserve Act of 1938, as amended, and the provisions of the act of March 4, 1913 (37 Stat. 892, 34 U. S. C. 870).

NATIONAL SURVEY OF FOREST RESOURCES

The Senate proceeded to consider the bill (S. 979) to amend section 9 of the act of May 22, 1928, as amended, authorizing and directing a national survey of forest resources.

Mr. SMITH of New Jersey. Mr. President, I should like to ask the Senator from Minnesota for an explanation of the bill.

Mr. THYE. Mr. President, this is a bill to amend an act which has been on the statute books since 1928, and the purpose is to continue a survey of our forests to ascertain the growth, the cutting, the diseases, and all information relating to our natural forest resources. The act carried an appropriation, on the first passage of the measure, of \$3,000,000. Then it was increased to \$6,500,000. Then, because of the war, there was a general delay in the work, and now we ask for an increased appropriation because of increased costs, and also because the work has been delayed so long, in order that we may have complete information about natural forest resources. There is a desire to speed up the investigation and study of our forest resources. The bill was reported unanimously by the Committee on Agriculture and Forestry and has behind it the recommendation of the Department of Agriculture.

Mr. LANGER. Mr. President, can the Senator give us an idea as to the approximate cost?

Mr. THYE. The amendment to the law calls for a total appropriation of \$11,000,000, for the whole purpose, but only \$1,000,000 is to be appropriated annually to continue the study.

The VICE PRESIDENT. Is there objection to the consideration of the bill?

Mr. SMITH of New Jersey. I have no objection.

The bill was ordered to be engrossed for a third reading, read the third time, and passed, as follows:

Be it enacted, etc., That to enable the Secretary of Agriculture to complete and keep current the forest survey authorized by section 9 of the act of May 22, 1928, as amended (45 Stat. 699, 702; 58 Stat. 265; 16 U. S. C. 581h), so that a continuous and comprehensive timber inventory will be maintained as part of the forest-conservation program, said section is amended (1) by striking out "\$750,000" and inserting "\$1,000,000"; (2) by striking out "\$6,500,000" and inserting "\$11,-

S. 247

IN THE HOUSE OF REPRESENTATIVES

MARCH 22, 1949

Referred to the Committee on Interstate and Foreign Commerce

AN ACT

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Foun-
4 dation Act of 1949".

5 ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

6 SEC. 2. There is hereby established in the executive
7 branch of the Government an independent agency to be
8 known as the National Science Foundation (hereinafter
9 referred to as the "Foundation").

MEMBERSHIP OF FOUNDATION

1
2 SEC. 3. (a) The Foundation shall have twenty-four
3 members to be appointed by the President, by and with
4 the advice and consent of the Senate. The persons nom-
5 inated for appointment as members (1) shall be eminent
6 in the fields of the basic sciences, medical science,
7 engineering, education, or public affairs; (2) shall be
8 selected solely on the basis of established records of
9 distinguished service; and (3) shall be so selected as
10 to provide representation of the views of scientific leaders
11 in all areas of the Nation. The President is requested, in
12 the making of nominations of persons for appointment as
13 members, to give due consideration to any recommendations
14 for nomination which may be submitted to him by the
15 National Academy of Sciences, Association of Land Grant
16 Colleges and Universities, the National Association of State
17 Universities, Association of American Colleges, or by other
18 scientific or educational organizations.

19 (b) The term of office of each member of the Founda-
20 tion shall be six years, except that (1) any member ap-
21 pointed to fill a vacancy occurring prior to the expiration
22 of the term for which his predecessor was appointed shall
23 be appointed for the remainder of such term; and (2) the
24 terms of office of the members first taking office after the
25 date of enactment of this Act shall expire, as designated

1 by the President at the time of appointment, eight at the
2 end of two years, eight at the end of four years, eight at
3 the end of six years, after the date of enactment of this
4 Act. Any person who has been a member of the Founda-
5 tion for twelve consecutive years shall thereafter be ineligible
6 for appointment during the two-year period following the
7 expiration of such twelfth year.

8 (c) The President shall call the first meeting of the
9 members of the Foundation, at which the first order of
10 business shall be the election of a chairman and a vice
11 chairman.

12 POWERS AND DUTIES OF THE FOUNDATION

13 SEC. 4. (a) The Foundation is authorized and directed—

14 (1) to develop and encourage the pursuit of a na-
15 tional policy for the promotion of basic research and edu-
16 cation in the sciences;

17 (2) to initiate and support basic scientific research
18 in the mathematical, physical, medical, biological, engi-
19 neering, and other sciences, by making contracts or other
20 arrangements (including grants, loans, and other forms
21 of assistance) for the conduct of such basic scientific
22 research and to appraise the impact of research upon
23 industrial development and upon the general welfare;

24 (3) after consultation with the Secretary of De-
25 fense, to initiate and support scientific research in con-

1 nection with matters relating to the national defense
2 by making contracts or other arrangements (including
3 grants, loans, and other forms of assistance) for the
4 conduct of such scientific research;

5 (4) to grant scholarships and graduate fellowships
6 in the mathematical, physical, medical, biological, engi-
7 neering, and other sciences;

8 (5) to foster the interchange of scientific informa-
9 tion among scientists in the United States and foreign
10 countries;

11 (6) to correlate the Foundation's scientific research
12 programs with those undertaken by individuals and by
13 public and private research groups; and

14 (7) to establish such special commissions as the
15 Foundation may from time to time deem necessary
16 for the purposes of this Act.

17 (b) In exercising the authority and discharging the
18 functions referred to in subsection (a) of this section, it
19 shall be the objective of the Foundation to achieve the
20 results of scientific research in the most efficient manner
21 possible and to strengthen basic research and education in
22 the sciences, including independent research by individuals,
23 throughout the United States, including its Territories and
24 possessions, and to avoid undue concentration of such re-
25 search and education.

1 (c) The members of the Foundation shall meet
2 annually on the first Monday in December and at such other
3 times as the Chairman may determine, but he shall also
4 call a meeting whenever one-third of the members so request
5 in writing. A majority of the members of the Foundation
6 shall constitute a quorum. Each member shall be given
7 notice, by registered mail mailed to his last-known address
8 of record not less than fifteen days prior to any meeting,
9 of the call of such meeting.

10 (d) The first Chairman and Vice Chairman of the
11 Foundation shall be elected by the Foundation to serve
12 until the first Monday in December next succeeding the
13 date of election at which time a Chairman and Vice Chair-
14 man shall be elected for a term of two years. Thereafter
15 such election shall take place at the annual meeting occur-
16 ring at the end of each such term. The Vice Chairman
17 shall perform the duties of the Chairman in his absence. In
18 case a vacancy occurs in the chairmanship or vice chairman-
19 ship, the Foundation shall elect a member to fill such
20 vacancy.

21 (e) The Foundation is authorized to appoint from
22 among its members, an Executive Committee and from time
23 to time to appoint from among its members or otherwise,
24 such other committees as it deems necessary and to assign
25 to such Executive Committee or other committees such

1 powers and functions as it deems appropriate for the pur-
2 poses of this Act.

3 (f) The Foundation shall render an annual report
4 to the President for submission on or before the 15th day
5 of January to the Congress, summarizing the activities of
6 the Foundation and making such recommendations as it
7 may deem appropriate.

8 DIRECTOR OF FOUNDATION

9 SEC. 5. There shall be a Director of the Foundation
10 who shall be appointed by the President by and with the
11 advice and consent of the Senate, after the members of the
12 Foundation have been appointed and qualified. He shall
13 serve as an ex officio member of the Foundation. In addition
14 thereto he shall be the chief executive officer of the Founda-
15 tion. The Director shall receive compensation at the rate
16 of \$15,000 per annum and shall serve for a term of six years
17 unless sooner removed by the President.

18 DIVISIONS WITHIN THE FOUNDATION

19 SEC. 6. (a) Until otherwise provided by the Founda-
20 tion there shall be within the Foundation the following
21 divisions:

22 (1) A Division of Medical Research;

23 (2) A Division of Mathematical, Physical, and En-
24 gineering Sciences;

25 (3) A Division of Biological Sciences; and

1 (4) A Division of Scientific Personnel and Education,
2 which shall be concerned with programs of the Foundation
3 relating to the granting of scholarships and graduate fellow-
4 ships in the mathematical, physical, medical, biological, en-
5 gineering, and other sciences.

6 (b) There shall also be within the Foundation such
7 other divisions as the Foundation may, from time to time,
8 deem necessary.

9 DIVISIONAL COMMITTEES

10 SEC. 7. (a) There shall be a committee for each divi-
11 sion of the Foundation.

12 (b) Each divisional committee shall be appointed by
13 the Foundation and shall consist of not less than five persons
14 who may be members or nonmembers of the Foundation.

15 (c) The terms of members of each divisional com-
16 mittee shall be two years. Each divisional committee shall
17 annually elect its own chairman from among its own mem-
18 bers, and shall prescribe its own rules of procedure, subject
19 to such restrictions as may be prescribed by the Foundation.

20 (d) Each divisional committee shall make recom-
21 mendations to, and advise and consult with, the Foundation
22 and the Director with respect to matters relating to the
23 program of its division.

24 SPECIAL COMMISSIONS

25 SEC. 8. (a) Each special commission established by

1 the Foundation pursuant to section 4 (a) (7) shall consist
2 of eleven members appointed by the Foundation, six of
3 whom shall be eminent scientists and five of whom shall be
4 persons other than scientists. Each special commission shall
5 choose its own chairman and vice chairman.

6 (b) It shall be the duty of each such special commis-
7 sion to make a comprehensive survey of research, both
8 public and private, being carried on in its field, and to
9 formulate and recommend to the Foundation, at the earliest
10 practicable date, an over-all research program in its field.

11 SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER
12 OF SCIENTIFIC PERSONNEL

13 SEC. 9. (a) The Director, with the approval of the
14 Foundation, is authorized to award, within the limits of funds
15 made available pursuant to section 13, scholarships and
16 graduate fellowships for scientific study or scientific work in
17 the mathematical, physical, medical, biological, engineering,
18 and other sciences at accredited nonprofit American or non-
19 profit foreign institutions of higher education, selected by
20 the recipient of such aid, for stated periods of time. Persons
21 shall be selected for such scholarships and fellowships from
22 among citizens of the United States, and such selections shall
23 be made solely on the basis of ability; but in any case in
24 which two or more applicants for scholarships or fellowships,
25 as the case may be, are deemed by the Director and

1 the Foundation to be possessed of substantially equal
2 ability, and there are not sufficient scholarships or fellowships,
3 as the case may be, available to grant one to each of such
4 applicants, the available scholarship or scholarships or
5 fellowship or fellowships shall be awarded to the applicants
6 in such manner as will tend to result in a wide distribution
7 of scholarships and fellowships among the States, Territories,
8 possessions, and the District of Columbia.

9 (b) The Foundation shall maintain a register of sci-
10 entific and technical personnel and in other ways provide a
11 central clearinghouse for information covering all scientific
12 and technical personnel in the United States and its
13 possessions.

14 AUTHORITY OF FOUNDATION

15 SEC. 10. The Foundation is empowered to do all things
16 necessary to carry out the provisions of this Act, and with-
17 out being limited thereby, the Foundation is specifically
18 authorized—

19 (a) to prescribe such rules and regulations as
20 it deems necessary governing the manner of its opera-
21 tions and its organization and personnel;

22 (b) to make such expenditures as may be necessary
23 for administering the provisions of this Act;

24 (c) to enter into contracts or other arrangements,

1 or modifications thereof, for the carrying on, by organ-
2 izations or individuals in the United States and foreign
3 countries, including other government agencies of the
4 United States and of foreign countries (without legal
5 consideration, without performance or other bonds, and
6 without regard to section 3709 of the Revised Statutes),
7 of such basic scientific research activities as the Founda-
8 tion deems necessary to carry out the purposes of this
9 Act;

10 (d) to make advance, progress, and other pay-
11 ments which relate to scientific research without regard
12 to the provisions of section 3648 of the Revised Statutes
13 (31 U. S. C., sec. 529) ;

14 (e) to acquire by purchase, lease, loan, or gift,
15 and to hold and dispose of by sale, lease, or loan, real
16 and personal property of all kinds necessary for, or re-
17 sulting from, scientific research;

18 (f) to receive and use funds donated by others,
19 if such funds are donated, without restriction, other than
20 that they be used in furtherance of one or more of the
21 general purposes of the Foundation;

22 (g) to publish or arrange for the publication of
23 scientific and technical information so as to further
24 the full dissemination of information of scientific value
25 consistent with the national interest, without regard to

1 the provisions of section 87 of the Act of January 12,
2 1895 (28 Stat. 622), and section 11 of the Act of
3 March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111) :

4 (h) to accept and utilize the services of volun-
5 tary and uncompensated personnel and to pay the actual
6 and necessary traveling and subsistence expenses (in-
7 cluding, in lieu of subsistence, per diem allowances at
8 a rate not in excess of \$10 for such personnel incurred
9 in the course of such services) ; and

10 (i) to prescribe, with the approval of the Comp-
11 troller General of the United States, the extent to
12 which vouchers for funds expended under contracts for
13 scientific research shall be subject to itemization or sub-
14 stantiation prior to payment, without regard to the limi-
15 tations of other laws relating to the expenditure of
16 public funds and accounting therefor.

17 PATENT RIGHTS

18 SEC. 11. (a) Each contract or other arrangement exe-
19 cuted pursuant to this Act which relates to scientific research
20 shall contain provisions governing the disposition of inven-
21 tions produced thereunder in a manner calculated to protect
22 the public interest and the equities of the individual or
23 organization with which the contract or other arrangement
24 is executed: *Provided, however,* That nothing in this Act
25 shall be construed to authorize the Foundation, by any con-

1 tractual or other arrangement, to alter or modify any pro-
2 vision of law affecting the issuance or use of patents.

3 (b) No officer or employee of the Foundation shall
4 acquire, retain, or transfer any rights, under the patent laws
5 of the United States or otherwise, in any invention which
6 he may make or produce in connection with performing his
7 assigned activities and which is directly related to the subject
8 matter thereof: *Provided, however,* That this subsection
9 shall not be construed to prevent any officer or employee of
10 the Foundation from executing any application for patent
11 on any such invention for the purpose of assigning the same
12 to the Government or its nominee in accordance with such
13 rules and regulations as the Director may establish.

14 INTERNATIONAL COOPERATION

15 SEC. 12. (a) The Foundation is hereby authorized
16 to cooperate in any international scientific research activities
17 consistent with the purposes of this Act and to expend for
18 such international scientific research activities such sums
19 within the limit of appropriated funds as the Foundation may
20 deem desirable.

21 (b) The Director, with the approval of the Founda-
22 tion, may defray the expenses of representatives of Gov-
23 ernment agencies and other organizations and of individual
24 scientists to accredited international scientific congresses and

1 meetings whenever he deems it necessary in the promotion
2 of the objectives of this Act.

3 APPROPRIATIONS

4 SEC. 13. (a) To enable the Foundation to carry out
5 its powers and duties, there is hereby authorized to be
6 appropriated annually to the Foundation, out of any money
7 in the Treasury not otherwise appropriated, such sums as
8 may be necessary to carry out the provisions of this Act.

9 (b) The funds hereafter appropriated to the Founda-
10 tion, as herein authorized, shall, if obligated during the fiscal
11 year for which appropriated, remain available for expendi-
12 ture for four years following the expiration of the fiscal year
13 for which appropriated. After such four-year period, the
14 unexpended balances of appropriations shall be carried to
15 the surplus fund and covered into the Treasury.

16 GENERAL PROVISIONS

17 SEC. 14. (a) The Director shall, in accordance with
18 such policies as the Foundation shall from time to time
19 prescribe, appoint and fix the compensation of such per-
20 sonnel as may be necessary to carry out the provisions of
21 this Act. Such appointments shall be made and such com-
22 pensation shall be fixed in accordance with the provisions
23 of the civil-service laws and regulations and the Classification
24 Act of 1923, as amended: *Provided*, That the Director

1 may in accordance with such policies as the Foundation shall
2 from time to time prescribe, employ such technical and
3 professional personnel and fix their compensation, with-
4 out regard to such laws, as he may deem necessary
5 for the discharge of the responsibilities of the Founda-
6 tion under this Act. The Deputy Director herein-
7 after provided for, and the members of the divisional
8 committees, and special commissions, shall be appointed with-
9 out regard to the civil-service laws or regulations. Neither
10 the Director nor the Deputy Director shall engage in any
11 other business, vocation, or employment than that of serving
12 as such Director or Deputy Director, as the case may be;
13 nor shall the Director or Deputy Director, except with the
14 approval of the Foundation, hold any office in, or act in
15 any capacity for, any organization, agency, or institution
16 with which the Foundation makes any contract or other
17 arrangement under this Act.

18 (b) The Director may appoint, with the approval of
19 the Foundation, a Deputy Director who shall perform such
20 functions as the Director, with the approval of the Founda-
21 tion, may prescribe and shall be Acting Director during
22 the absence or disability of the Director or in the event of
23 a vacancy in the Office of the Director, and who shall receive
24 compensation at a rate not to exceed \$12,000 per annum.

1 (c) The Foundation shall not, itself, operate any labora-
2 tories or pilot plants.

3 (d) The members of the Foundation, and the members
4 of each divisional committee, or special commission, shall
5 receive compensation at the rate of \$25 for each day
6 engaged in the business of the Foundation pursuant to
7 authorization of the Foundation, and shall be allowed actual
8 and necessary traveling and subsistence expenses (including,
9 in lieu of subsistence, per diem allowances at a rate not in
10 excess of \$10) when engaged, away from home, in the
11 duties of their offices.

12 (e) Persons holding other offices in the executive
13 branch of the Federal Government may serve as members of
14 the divisional committees, and special commissions, but they
15 shall not receive remuneration for their services as such
16 members during any period for which they receive com-
17 pensation for their services in such other offices.

18 (f) Service of an individual as a member of the Founda-
19 tion, of a divisional committee, or of a special commission
20 shall not be considered as service bringing him within the
21 provisions of section 109 or section 113 of the Criminal
22 Code (U. S. C., 1940 edition, title 18, secs. 198 and 203)
23 or section 19 (e) of the Contract Settlement Act of
24 1944, unless the act of such individual, which by such

1 activity will not adversely affect the common defense and
2 security. Nothing in this Act shall supersede or modify
3 any provision of the Atomic Energy Act of 1946.

4 (1) The Foundation, after consultation with the Secre-
5 tary of Defense, shall establish regulations and procedures
6 for the security classification of information or property
7 (having military significance) in connection with scientific
8 research under this Act, and for the proper safeguarding of
9 any information or property so classified.

10 COORDINATION WITH FOREIGN POLICY

11 SEC. 15. (a) The authority to enter into contracts or
12 other arrangements with organizations or individuals in for-
13 eign countries and with agencies of foreign countries, as pro-
14 vided in section 10 (c), and the authority to cooperate in
15 international scientific research activities as provided in sec-
16 tion 12 (a), shall be exercised in such manner as is con-
17 sistent with the foreign policy objectives of the United States
18 as determined by the Secretary of State after consultation
19 with the Director.

20 (b) If, in the exercise of the authority referred to in
21 subsection (a) to carry out the purposes of this Act, negotia-
22 tion with foreign countries or agencies thereof becomes neces-

1 sary, such negotiation shall be carried on by the Secretary
2 of State in consultation with the Director.

Passed the Senate March 18, 1949.

Attest:

LESLIE L. BIFFLE,
Secretary.

AN ACT

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

MARCH 22, 1949

Referred to the Committee on Interstate and Foreign
Commerce

NATIONAL SCIENCE FOUNDATION

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE HOUSE OF REPRESENTATIVES

EIGHTY-FIRST CONGRESS

FIRST SESSION

ON

H. R. 12, S. 247, and H. R. 359

BILLS TO PROMOTE THE PROGRESS OF SCIENCE;
TO ADVANCE THE NATIONAL HEALTH, PROS-
PERITY, AND WELFARE; TO SECURE
THE NATIONAL DEFENSE, AND
FOR OTHER PURPOSES

MARCH 31, APRIL 1, 4, 5, AND 26, 1949

Printed for the use of the Committee on
Interstate and Foreign Commerce



UNITED STATES

GOVERNMENT PRINTING OFFICE

WASHINGTON : 1949

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NATIONAL SCIENCE FOUNDATION

THURSDAY, MARCH 31, 1949

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE OF THE COMMITTEE ON INTERSTATE
AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 10 a. m. in room 1334, New House Office Building pursuant to call, Hon. J. Percy Priest (chairman of the subcommittee) presiding.

Mr. PRIEST. The subcommittee will come to order.

The meeting has been called today for hearings on the National Science Foundation legislation. A number of bills have been introduced. Without objection, at this point in the record bill H. R. 12 will be printed, and the record will show that identical bills, H. R. 185, by Mr. Harris, of Arkansas; H. R. 311, by Mr. Wolverton of New Jersey; H. R. 2751, by Mr. Biemiller, of Wisconsin, have been introduced.

Without objection, there will be printed also at this point in the record, S. 247. Identical bills H. R. 1845, by Mr. Van Zandt, and H. R. 2308, by Mr. Mills, are before the committee.

Without objection, H. R. 359, a bill that differs from all of the others in a number of respects, by Mr. Celler, will be printed at this point in the record.

(H. R. 12, S. 247, and H. R. 359 are as follows:)

[H. R. 12, 81st Cong., 1st sess.]

A BILL To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Science Foundation Act of 1949."

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation").

MEMBERSHIP OF FOUNDATION

SEC. 3. (a) The Foundation shall have twenty-four members to be appointed by the President, by and with the advice and consent of the Senate. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration

to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, Association of Land Grant Colleges and Universities, the National Association of State Universities, Association of American Colleges, or by other scientific or educational organizations.

(b) The term of office of each member of the Foundation shall be six years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this Act shall expire, as designated by the President at the time of appointment, eight at the end of two years, eight at the end of four years, eight at the end of six years, after the date of enactment of this Act. Any person who has been a member of the Foundation for twelve consecutive years shall thereafter be ineligible for appointment during the two-year period following the expiration of such twelfth year.

(c) The President shall call the first meeting of the members of the Foundation, at which the first order of business shall be the election of a chairman and a vice chairman.

POWERS AND DUTIES OF THE FOUNDATION

SEC. 4. (a) The Foundation is authorized and directed—

(1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(2) to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

(3) after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

(4) to grant scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups; and

(7) to establish for such period of time as it may determine a special commission on cancer, on heart and cardiovascular diseases, on poliomyelitis and other degenerative diseases, and such other special commissions as the Foundation may from time to time deem necessary for the purposes of this Act.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

(c) The members of the Foundation shall meet annually on the first Monday in December and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the members of the Foundation shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record not less than fifteen days prior to any meeting, of the call of such meeting.

(d) The first Chairman and Vice Chairman of the Foundation shall be elected by the Foundation to serve until the first Monday in December next succeeding the date of election at which time a Chairman and Vice Chairman shall be elected for a term of two years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Foundation shall elect a member to fill such vacancy.

(e) The Foundation shall render an annual report to the President for submission on or before the 15th day of January to the Congress, summarizing the

activities of the Foundation and making such recommendations as it may deem appropriate. Such report shall include in full the report of the Executive Committee to the Foundation provided for in section 5 (d).

CREATION AND POWERS AND DUTIES OF THE EXECUTIVE COMMITTEE

SEC. 5. (a) There is hereby established an Executive Committee of the Foundation which shall consist of the Director ex officio as provided for in section 6 of this Act, and nine other members elected by the members of the Foundation from among their number. The term of office of each member of the Executive Committee shall be two years except that (1) any member elected to fill a vacancy occurring prior to the expiration of the term for which his predecessor was elected shall be elected for the remainder of such term; and (2) the term of office of four of the members first elected after the date of enactment of this Act shall be one year. Any person who has been a member of the Executive Committee for six consecutive years shall thereafter be ineligible for election during the two-year period following the expiration of such sixth year. The Executive Committee shall implement the policies developed by the Foundation under this Act. The membership of the Executive Committee shall so far as practicable be representative of diverse interests and shall be so chosen as to provide representation, so far as practicable, for all areas of the Nation.

(b) The Executive Committee shall meet at the call of its chairman or at such times as may be fixed by itself, but not less than six times each year.

(c) A majority of the voting members of the Executive Committee shall constitute a quorum.

(d) The Executive Committee shall render an annual report to the Foundation, and such other reports as it may deem necessary, summarizing the activities of the Executive Committee, making such recommendations as it may deem appropriate, and setting forth the recommendations of the divisional committees and special commissions. Minority views and recommendations, if any, of members of the Executive Committee, the divisional committees, and special commissions shall be included in such reports.

DIRECTOR OF FOUNDATION

SEC. 6. (a) There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate, after receiving recommendations from the Foundation. He shall serve as a nonvoting ex officio member of the Foundation and also as the nonvoting Chairman of the Executive Committee. In addition thereto, he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President.

(b) The Director shall, in accordance with such directives as the Executive Committee shall from time to time prescribe, exercise the powers set forth in this Act within the policies developed by the Foundation: *Provided*, That the authority granted to the Foundation by paragraph (c) of section 11 shall be exercised by the Director with the approval of the Executive Committee.

DIVISIONS WITHIN THE FOUNDATION

SEC. 7. (a) Until otherwise provided by the Foundation there shall be within the Foundation the following divisions:

- (1) A Division of Medical Research;
- (2) A Division of Mathematical, Physical, and Engineering Sciences.
- (3) A Division of Biological Sciences; and
- (4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

(b) There shall also be within the Foundation such other divisions as the Foundation may, from time to time, deem necessary.

DIVISIONAL COMMITTEES

SEC. 8. (a) There shall be a committee for each division of the Foundation.

(b) Each divisional committee shall be appointed by the Executive Committee and shall consist of not less than five persons who may be members or nonmembers of the Foundation.

(c) The terms of members of each divisional committee shall be two years. Each divisional committee shall annually elect its own chairman from among its own members, and shall prescribe its own rules of procedure, subject to such restrictions as may be prescribed by the Executive Committee.

(d) Each divisional committee shall make recommendations to, and advise and consult with, the Executive Committee and the Director with respect to matters relating to the program of its division.

SPECIAL COMMISSIONS

SEC. 9. (a) Each special commission established by the Foundation pursuant to section 4 (a) (7) shall consist of eleven members appointed by the Executive Committee, six of whom shall be eminent scientists and five of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.

(b) It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being carried on in its field, and to formulate and recommend to the Executive Committee at the earliest practicable date an over-all research program in its field.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER OF SCIENTIFIC PERSONNEL

SEC. 10. (a) The Director, with the approval of the Foundation, is authorized to award, within the limits of funds made available pursuant to section 14, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Director and the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.

(b) The Foundation shall maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States and its possessions.

AUTHORITY OF FOUNDATION

SEC. 11. The Foundation is empowered to do all things necessary to carry out the provisions of this Act, and without being limited thereby, the Foundation is specifically authorized—

(a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;

(b) to make such expenditures as may be necessary for administering the provisions of this Act;

(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other government agencies of the United States and of foreign countries (without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes), of such basic scientific research activities and scientific research activities in connection with the matters relating to the national defense as the Foundation deems necessary to carry out the purposes of this Act;

(d) to make, advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, scientific research;

(f) to receive and use funds donated by others, if such funds are donated, without restriction, other than that they be used in furtherance of one or more of the general purpose of the Foundation;

(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to pay the actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10 of such personnel incurred in the course of such services); and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 12. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation, by any contractual or other arrangement, to alter or modify any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however,* That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

INTERNATIONAL COOPERATION

SEC. 13. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this Act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable.

(b) The Director, with the approval of the Executive Committee, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this Act.

APPROPRIATIONS

SEC. 14. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated annually to the Foundation, out of any money in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this Act.

(b) The funds hereafter appropriated to the Foundation, as herein authorized, shall, if obligated during the fiscal year for which appropriated, remain available for expenditure for four years following the expiration of the fiscal year for which appropriated. After such four-year period, the unexpended balances of appropriations shall be carried to the surplus fund and covered into the Treasury.

GENERAL PROVISIONS

SEC. 15. (a) The Director shall, in accordance with such general directives as the Executive Committee shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this Act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended: *Provided,* That the Director may, in accordance with such general directives as the Executive Committee

shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this Act. The Deputy Director hereinafter provided for; and the members of the divisional committees, and special commissions, shall be appointed without regard to the civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of the Executive Committee, hold any office in, or act in any capacity for, any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this Act.

(b) The Director may appoint, with the approval of the Executive Committee, a Deputy Director who shall perform such functions as the Director, with the approval of the Executive Committee, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director, and who shall receive compensation at a rate not to exceed \$12,000 per annum.

(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

(d) The members of the Foundation, and the members of each divisional committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation, pursuant to authorization of the Foundation, and shall be allowed actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowance at a rate not in excess of \$10) when engaged, away from home, in the duties of their offices.

(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees, and special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(f) Service of an individual as a member of the Foundation, of a divisional committee, or of a special commission shall not be considered as service bringing him within the provisions of section 109 or section 113 of the Criminal Code (U. S. C., 1940 edition, title 18, secs. 198 and 203) or section 19 (e) of the Contract Settlement Act of 1944, unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly non-profit organizations, in the States and Territories and the District of Columbia, (3) aiding institutions, agencies, or organizations which, if aided, will advance basic research, and (4) encouraging independent basic research by individuals.

(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development.

(i) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

(j) The National Roster of Scientific and Specialized Personnel shall be transferred from the Department of Labor to the Foundation, together with such of the personnel, records, property, and balances of appropriations as have been utilized or are available for use in the administration of such roster as may be determined by the President. The transfer provided for in this subsection shall take effect at such time or times as the President shall direct.

(k) The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946.

(l) The Executive Committee, after consultation with the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under this Act, and for the proper safeguarding of any information or property so classified.

COORDINATION WITH FOREIGN POLICY

SEC. 16. (a) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c), and the authority to cooperate in international scientific research activities as provided in section 13 (a), shall be exercised only after consultation with the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

(b) If, in the exercise of the authority referred to in subsection (a) to carry out the purposes of this Act, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

[S. 247, 81st Cong., 1st sess.]

AN ACT To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Science Foundation Act of 1949".

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation").

MEMBERSHIP OF FOUNDATION

SEC. 3. (a) The Foundation shall have twenty-four members to be appointed by the President, by and with the advice and consent of the Senate. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, Association of Land Grant Colleges and Universities, the National Association of State Universities, Association of American Colleges, or by other scientific or educational organizations.

(b) The term of office of each member of the Foundation shall be six years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this Act shall expire, as designated by the President at the time of appointment, eight at the end of two years, eight at the end of four years, eight at the end of six years, after the date of enactment of this Act. Any person who has been a member of the Foundation for twelve consecutive years shall thereafter be ineligible for appointment during the two-year period following the expiration of such twelfth year.

(c) The President shall call the first meeting of the members of the Foundation, at which the first order of business shall be the election of a chairman and a vice chairman.

POWERS AND DUTIES OF THE FOUNDATION

SEC. 4. (a) The Foundation is authorized and directed—

(1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(2) to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

(3) after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

(4) to grant scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups; and

(7) to establish such special commissions as the Foundation may from time to time deem necessary for the purposes of this Act.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be the objective of the Foundation to achieve the results of scientific research in the most efficient manner possible and to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

(c) The members of the Foundation shall meet annually on the first Monday in December and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the members of the Foundation shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record not less than fifteen days prior to any meeting, of the call of such meeting.

(d) The first Chairman and Vice Chairman of the Foundation shall be elected by the Foundation to serve until the first Monday in December next succeeding the date of election at which time a Chairman and Vice Chairman shall be elected for a term of two years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The Vice Chairman shall perform the duties of the Chairman in his absence. In case of a vacancy occurs in the chairmanship or vice chairmanship, the Foundation shall elect a member to fill such vacancy.

(e) The Foundation is authorized to appoint from among its members, an Executive Committee and from time to time to appoint from among its members or otherwise, such other committees as it deems necessary and to assign to such Executive Committee or other committees such powers and functions as it deems appropriate for the purposes of this Act.

(f) The Foundation shall render an annual report to the President for submission on or before the 15th day of January to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate.

DIRECTOR OF FOUNDATION

SEC. 5. There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate, after the members of the Foundation have been appointed and qualified. He shall serve as an ex officio member of the Foundation. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President.

DIVISIONS WITHIN THE FOUNDATION

SEC. 6. (a) Until otherwise provided by the Foundation there shall be within the Foundation the following divisions:

(1) A Division of Medical Research;

- (2) A Division of Mathematical, Physical, and Engineering Sciences;
 - (3) A Division of Biological Sciences; and
 - (4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.
- (b) There shall also be within the Foundation such other divisions as the Foundation may, from time to time, deem necessary.

DIVISIONAL COMMITTEES

- SEC. 7. (a) There shall be a committee for each division of the Foundation.
- (b) Each divisional committee shall be appointed by the Foundation and shall consist of not less than five persons who may be members or nonmembers of the Foundation.
- (c) The terms of members of each divisional committee shall be two years. Each divisional committee shall annually elect its own chairman from among its own members, and shall prescribe its own rules of procedure, subject to such restrictions as may be prescribed by the Foundation.
- (d) Each divisional committee shall make recommendations to, and advise and consult with, the Foundation and the Director with respect to matters relating to the program of its division.

SPECIAL COMMISSIONS

- SEC. 8. (a) Each special commission established by the Foundation pursuant to section 4 (a) (7) shall consist of eleven members appointed by the Foundation, six of whom shall be eminent scientists and five of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.
- (b) It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being carried on in its field, and to formulate and recommend to the Foundation, at the earliest practicable date, an over-all research program in its field.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS; REGISTER OF SCIENTIFIC PERSONNEL

- SEC. 9. (a) The Director, with the approval of the Foundation, is authorized to award, within the limits of funds made available pursuant to section 13, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Director and the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.
- (b) The Foundation shall maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States and its possessions.

AUTHORITY OF FOUNDATION

- SEC. 10. The Foundation is empowered to do all things necessary to carry out the provisions of this Act, and without being limited thereby, the Foundation is specifically authorized—
- (a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;
 - (b) to make such expenditures as may be necessary for administering the provisions of this Act;
 - (c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States

and foreign countries, including other government agencies of the United States and of foreign countries (without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes), of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this Act;

(d) to make advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, scientific research;

(f) to receive and use funds donated by others, if such funds are donated, without restriction, other than that they be used in furtherance of one or more of the general purposes of the Foundation;

(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to pay the actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10 for such personnel incurred in the course of such services); and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 11. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation, by any contractual or other arrangement, to alter or modify any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however,* That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

INTERNATIONAL COOPERATION

SEC. 12. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this Act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable.

(b) The Director, with the approval of the Foundation, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this Act.

APPROPRIATIONS

SEC. 13. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated annually to the Foundation, out of any money in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this Act.

(b) The funds hereafter appropriated to the Foundation, as herein authorized, shall, if obligated during the fiscal year for which appropriated, remain avail-

able for expenditure for four years following the expiration of the fiscal year for which appropriated. After such four-year period, the unexpended balances of appropriations shall be carried to the surplus fund and covered into the Treasury.

GENERAL PROVISIONS

Sec. 14. (a) The Director shall, in accordance with such policies as the Foundation shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this Act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended: *Provided*, That the Director may in accordance with such policies as the Foundation shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this Act. The Deputy Director hereinafter provided for, and the members of the divisional committees, and special commissions, shall be appointed without regard to the civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of the Foundation, hold any office in, or act in any capacity for, any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this Act.

(b) The Director may appoint, with the approval of the Foundation, a Deputy Director who shall perform such functions as the Director, with the approval of the Foundation, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director, and who shall receive compensation at a rate not to exceed \$12,000 per annum.

(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

(d) The members of the Foundation, and the members of each divisional committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation pursuant to authorization of the Foundation, and shall be allowed actual and necessary traveling and subsistence expenses (including, in lieu of subsistence, per diem allowances at a rate not in excess of \$10) when engaged, away from home, in the duties of their offices.

(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees, and special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(f) Service of an individual as a member of the Foundation, of a divisional committee, or of a special commission shall not be considered as service bringing him within the provisions of section 109 or section 113 of the Criminal Code (U. S. C., 1940 edition, title 18, secs. 198 and 203) or section 19 (e) of the Contract Settlement Act of 1944, unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly non-profit organizations, in the States and Territories and the District of Columbia, and (3) aiding institutions, agencies, or organizations which, if aided, will advance basic research, and (4) encouraging independent basic research by individuals.

(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development.

(i) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or

agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

(j) The National Roster of Scientific and Specialized Personnel shall be transferred from the Department of Labor to the Foundation, together with such of the personnel, records, property, and balances of appropriations as have been utilized or are available for use in the administration of such roster as may be determined by the President. The transfer provided for in this subsection shall take effect at such time or times as the President shall direct.

(k) The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 10 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946.

(l) The Foundation, after consultation with the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under this Act, and for the proper safeguarding of any information or property so classified.

COORDINATION WITH FOREIGN POLICY

SEC. 15. (a) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 10 (c), and the authority to cooperate in international scientific research activities as provided in section 12 (a), shall be exercised in such manner as is consistent with the foreign policy objectives of the United States as determined by the Secretary of State after consultation with the Director.

(b) If, in the exercise of the authority referred to in subsection (a) to carry out the purposes of this Act, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

Passed the Senate March 18, 1949.

Attest:

LESLIE L. BIFFLE, *Secretary.*

[H. R. 359, 81st Cong., 1st sess.]

A BILL To promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Science Foundation Act of 1949".

DECLARATION OF POLICY

SEC. 2. The Congress hereby finds that a full development and application of the Nation's scientific and technical resources is essential for the national defense, national prosperity, and the national health and welfare. The Congress declares it to be the purpose of this Act, among other things, to provide support for scientific research and development, to enable young men and women of ability to receive scientific training, to promote the conservation and use of the natural resources of the Nation, to correlate the scientific research and development programs of the several Government agencies to achieve a full dissemination of scientific and technical information to the public, and to foster the interchange of scientific and technical information in this country and abroad. The Congress further finds it essential for these purposes to create a central scientific agency within the Federal Government.

NATIONAL SCIENCE FOUNDATION

SEC. 3. (a) There is hereby established an independent agency of the Federal Government to be known as the National Science Foundation (hereinafter re-

ferred to as the "Foundation"), and administered by an Administrator (hereinafter referred to as the "Administrator") who shall be appointed by the President, by and with the advice and consent of the Senate, and shall receive compensation at the rate of \$15,000 per annum. The President, before appointing an Administrator, shall consult with and receive the recommendations of the National Science Board created in section 4 and (hereinafter referred to as the "Board"). The Administrator shall appoint a Deputy Administrator, who shall perform the functions of the Administrator during his absence or when there is a vacancy in the office of the Administrator, and shall perform such other duties as may be delegated to him by the Administrator. The Deputy Administrator shall receive compensation at the rate of \$12,000 per annum.

(b) There shall be within the Foundation, a Division of Mathematical and Physical Sciences, a Division of Biological Sciences, a Division of Social Sciences, a Division of Health and Medical Sciences, a Division of National Defense, a Division of Engineering and Technology, a Division of Scientific Personnel and Education, a Division of Publications and Information, and such additional divisions, not to exceed three in number, as the Administrator may from time to time establish after receiving the advice of the Board. The functions of each division shall be prescribed by the Administrator after receiving the advice of the Board, except that until the Administrator and the Board have received general recommendations from the Division of Social Sciences regarding the support of research through that Division, support of social science research shall be limited to studies of the impact of scientific discovery on the general welfare and studies required in connection with other projects supported by the Foundation. Each division shall be headed by a Director, who shall be appointed by the Administrator and shall receive compensation at the rate of \$12,000 per annum.

(c) Except as provided in section 4, the Administrator shall appoint and fix the compensation of such personnel as he may deem necessary to carry out the provisions of this Act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended, except that, when deemed necessary by the Administrator for the effective administration of this Act, expert scientific, technical, and professional personnel, including part-time personnel, may be employed without regard to the civil-service laws, and their compensation fixed without regard to the Classification Act of 1923, as amended.

NATIONAL SCIENCE BOARD AND DIVISIONAL SCIENTIFIC COMMITTEES

SEC. 4. (a) The Administrator, in exercising his authority under this Act, shall consult and advise with a National Science Board and, through the Directors of the several divisions, with divisional scientific committees, on all matters of major policy, program, or budget. The Board shall consist of nine members appointed by the President, by and with the advice and consent of the Senate, from among persons who are especially qualified to promote the broad objectives of this Act, plus the chairmen of the several divisional scientific committees. The scientific committee for each division, except the Division of National Defense, shall consist of not less than five and not more than fifteen members appointed by the Administrator, with the advice and approval of the Board, except that the initial members of each such divisional scientific committee shall be appointed by the Administrator with the advice and approval of the Board members appointed by the President.

The scientific committee for the Division of National Defense shall consist of not more than forty persons, of whom at least half shall be civilians appointed by the Administrator, with the advice and approval of the Board, and the remaining members shall be divided equally between such chiefs of such services and divisions of the War Department and such chiefs of such bureaus and offices of the Navy Department as the Secretary of War and the Secretary of the Navy, respectively, may from time to time designate. There shall be within the divisional scientific committee for the Division of National Defense a five-man executive committee consisting of the chairman of the divisional scientific committee, as chairman; two civilian members elected annually by the civilian members of the divisional scientific committee; together with one Army officer, and one naval officer, each of whom should be charged in their respective Departments with the coordination of research, designated by the Secretary of War and the Secretary of the Navy, respectively.

Each divisional scientific committee shall be reasonably representative of the major scientific interests and functions of its division. Members of the Board

appointed by the President and members of the divisional scientific committees appointed by the Administrator shall service for three-year terms, except that (1) at least one-third of such members originally appointed shall be appointed for one-year terms, and at least another third for two-year terms, and (2) any member appointed to fill a vacancy occurring prior to the expiration of the term of his predecessor shall be appointed for the remainder of such term. No person thus appointed to serve as a member of the Board or any divisional scientific committee shall be eligible again to serve as a member of the same group until the expiration of one year after his term has expired, except that a member appointed for a term of less than three years may be appointed for a succeeding three-year term.

(b) The Board and each divisional scientific committee shall annually elect its own chairman from among its own members, and shall devise its own rules of procedure. The Board and each such committee shall meet at the call of its own chairman or at such times as may be fixed by itself, but not less than six times each year, including at least once each calendar quarter. Vacancies in the membership of the Board or of any divisional scientific committee shall not impair the authority of the remaining members to execute its functions, and a majority of the members of the Board or any divisional scientific committee as constituted at any given time shall constitute a quorum.

The Board shall appoint and prescribe the duties of an executive secretary of its own selection, who shall receive compensation at a rate, not exceeding \$12,000 per annum, to be fixed by the Board. The Administrator shall pay the compensation of such executive secretary and may furnish for the Board and the divisional scientific committees such additional personnel, and such facilities, services, and supplies as may be necessary for the proper performance of the functions of the Board and the divisional scientific committees.

(c) The Board shall continuously survey the activities and management of the Foundation, and shall periodically evaluate the achievements of the Foundation in accomplishing the objectives of this Act. Each divisional scientific committee shall survey continuously the scientific field which it encompasses, shall undertake to determine the specific scientific needs of such field, and shall evaluate proposed programs and projects. The Board and each divisional scientific committee shall, upon its own initiative or upon request by the Administrator, make appropriate recommendations and reports relating to its duties and findings. The Board and each such committee shall have full access to all information in the possession of the Foundation.

(d) The Administrator shall render an annual report to the President and the Congress, summarizing the activities of the Foundation, together with such recommendations as he may deem appropriate. The Board shall, annually and at such other times as it deems necessary, make such recommendations to the President and the Congress as in its opinion will further the objectives of this Act. The annual report shall include whatever dissenting opinions may be concerning the budget, organization, and management of the Foundation, and such other recommendations as the Board and the divisional scientific committees may deem necessary to better effectuate the purposes of this Act. The annual report shall include whatever dissenting opinions may be submitted for that purpose by individual members of the Board or of the divisional scientific committee. The Administrator shall, whenever requested by the Board or any divisional scientific committee, publish and disseminate widely any recommendations or reports prepared by the Board or such committee.

(e) Members of the Board and of the divisional scientific committees shall receive compensation at the rate of \$50 for each day engaged in the business of the Foundation, and shall be reimbursed for their necessary travel and other expenses incurred in the work of the Board or of any such committee. Persons holding other offices in the executive branch of the Federal Government may serve as members of the Board or any divisional scientific committee, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices, nor, except for representatives of the War and Navy Departments on the scientific committee for the Division of National Defense, shall they in their services as such members serve as representatives of the Government agency by which they are employed.

(f) Members of the Board and of any divisional scientific committee established under the provisions of this Act, and any other officers or employees of the Foundation, shall be chosen without regard to their political affiliations and solely on the basis of their demonstrated capacity to carry out the purposes of the Foundation and their fitness to perform the duties of their office.

(g) The Administrator may create such specialized additional advisory committees or employ the services of such advisory personnel as he may deem necessary to better effectuate the objectives of this Act. Persons so employed shall be reimbursed for their necessary travel and other expenses incurred in the work of the Foundation. Such persons may be noncompensated or may receive compensation at a rate not to exceed \$50 for each day of service. Members of the Board and of the divisional scientific committees, and any other person serving in an advisory capacity pursuant to this section, may serve as such without regard to the provisions of sections 109 and 113 of the Criminal Code (18 U. S. C., secs. 198 and 203) or section 19 (e) of the Contract Settlement Act of 1944, except insofar as such sections may prohibit any such person from receiving compensation in respect of any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

SUPPORT OF RESEARCH AND DEVELOPMENT

SEC. 5. (a) The Administrator is authorized to enter into contracts or other arrangements pursuant to which he will finance, in whole or in part, or otherwise support, research and development activities to be carried on by other Government agencies or by other organizations.

(b) Of the funds appropriated to the Foundation for research and development activities, not less than 15 per centum shall be available only for expenditure for research and development, pursuant to contracts or other financial arrangements made by the Administrator under this section, including contracts or arrangements to which subsection (c) is applicable, in each of the following fields: (1) National defense and (2) health and the medical sciences.

(c) Of the funds appropriated to the Foundation for research and development activities (excluding funds expressly appropriated for national defense), not less than 25 per centum shall be apportioned among the States as follows: Two-fifths shall be apportioned among the States in equal shares, and the remainder shall be apportioned among the States in the proportion that their respective populations bear to the population of all the States, determined according to the last preceding decennial census; and the amounts so apportioned to each State shall be expended only for carrying on research and development activities in the facilities of tax-supported colleges and universities, including the land-grant colleges, within such State pursuant to contracts or other financial arrangements made by the Administrator under this section. In making such contracts or other financial arrangements, the Administrator shall give each individual institution the widest latitude in its selection of individual research and development projects, but the Administrator shall not be required to expend funds in any institution unless it submits proposals for the expenditure of such funds which the Administrator finds to be consistent with such general program and standards as he may, after receiving the advice of the Board, establish in order to carry out the objectives and provisions of this Act. For purposes of this section the term "State" includes Alaska, Hawaii, and Puerto Rico. Of the funds appropriated to the Foundation for research and development activities (excluding funds expressly appropriated for national defense), an additional amount of not less than 25 per centum shall be expended in the facilities of nonprofit organizations without regard to the above limitations relating to State quotas or the tax-supported character of the organization. In meeting the requirements of this subsection, the Administrator may take into account whatever funds may be expended by the Foundation for facilities to be operated by the land-grant, tax-supported, or other nonprofit organizations, even though the title or ownership rights of such facilities remain with the United States.

(d) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research and development. Funds allocated by the Administrator to other Government agencies shall be utilized for projects approved by the Administrator and undertaken on behalf of the Foundation, and shall be in addition to, and not in lieu of funds regularly appropriated to such other Government agencies.

(e) In all research and development activities financed or otherwise supported by the Foundation, the Administrator shall make every effort to eliminate restraints upon the free expression of scientific views and to insure full freedom in the exercise of creative talents, in the development of new ideas, and in the methods of research. Any person engaged in such research and development activities shall not be precluded from independently discussing writing, or pub-

lishing his own views and conclusions relating to such research and development.

SCHOLARSHIPS AND FELLOWSHIPS

SEC. 6. The Administrator is authorized to award scholarships and fellowships to persons for scientific study or scientific work in any field of science, including but not limited to the mathematical, physical, biological, medical, and social sciences at nonprofit institutions of higher education, or other institutions, selected by the recipient of such aid, for such periods as the Administrator may determine, in the United States or in foreign countries. Persons shall be selected for such scholarships and fellowships solely on the basis of aptitude, within the limits of such quotas as may be established to insure an equitable selection of such persons from among the States, the District of Columbia, and the Territories. Persons selected for such scholarships and fellowships may include employees of the Federal Government and such employees selected and detailed for scientific study or training shall not lose their status or seniority ratings for reason of absence from regularly assigned duties during the course of such study or training.

REGISTER OF SCIENTIFIC PERSONNEL

SEC. 7. The Administrator shall maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information concerning all scientific and technical personnel in the United States and its possessions. No individual shall be listed in such register without his consent.

USE AND DISSEMINATION OF RESEARCH FINDINGS

SEC. 8. (a) The Administrator shall make and maintain an inventory of all current federally financed research and development projects. In cooperation with the Commissioner of Patents, the Administrator shall establish a central register of all inventions, discoveries, patents, patent rights, and findings, including references to related data, in which the United States or any agency thereof has any right, title, or interest, or which pursuant to this section have been freely dedicated to the public. The Administrator shall record, collect, index, and promptly publish or cause to be published significant data on all inventions and discoveries and other findings produced in the course of federally financed research and development activities, or arrange with other Government agencies for such publishing, recording, collecting, and indexing. In consultation and collaboration with the Library of Congress and other Government agencies, the Administrator shall take such steps as he may deem necessary to make such information and other available significant scientific and technical information accessible to the public, including the preparation and distribution of reports, periodic catalogs, inventories, abstracts, translations, bibliographies, and microfilm and other reproductions thereof; and for such purposes the Administrator may utilize the facilities of Government agencies and other organizations to the extent that he deems necessary or desirable, and may contract for the expenditure of funds for such purposes without regard to the provisions of section 87 of the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270) (U. S. C., title 44, sec. 111).

(b) Each contract or other arrangement for federally financed research or development entered into between any Government agency and any organization shall provide that such organization will make available to such agency full data on all inventions, discoveries, patents, patent rights, and findings produced in the course of such research or development, including such reports with respect thereto as may be required by such agency. Each Government agency, upon the request of the Administrator, shall make available to him such data and such reports with respect to research and development activities financed by such agency, as may be necessary for the purposes of this section.

(c) All inventions, discoveries, or findings in which the United States (or any Government agency), now or hereafter, hold any rights, including patent rights, shall be made available to the public on a nonexclusive and on a royalty-free basis to the extent the United States or such agency is entitled to do so under the rights held by it. Except as provided hereafter in this subsection and in subsection (d), any invention, discovery, or finding hereafter produced in the course of federally financed research and development shall, whether or not patented, be made freely available to the public and shall, if patented, be freely dedicated to the public. The requirements of this subsection, to the extent that

they require modification of contracts or other financial arrangements already entered into by the United States (or any Government agency) shall not go into effect until one hundred and twenty days after the date of enactment of this Act.

(d) The head of any Government agency financing by contract, or otherwise administering, federally financed research and development activities, may, by stipulation in the contract or by other advance agreements with any organization, provide for the retention by the organization, or by the inventor, or by their assignees of such patent rights based on discoveries, inventions, or findings produced in the course of such research and development as the head of such Government agency deems fair and equitable, and consistent with the national interest: *Provided*, That (1) the head of such Government agency shall, before entering into any such contract or agreement, make a finding that the agency has made every reasonable effort to arrange for the conduct of the necessary research and development without entering into a contract containing such provision; (2) the organization shall contribute or shall have contributed substantially to the development of the particular inventions, discoveries, or findings for which patent rights are retained through earlier or current research and development activities financed by the organization; (3) in every case, the contract or agreement shall provide for at least an irrevocable, nonexclusive, royalty-free license for governmental purposes to the United States; and (4), in the case of any nonprofit organization, the head of such Government agency further determines (A) that the research and development is essential in the field of national defense or in such other fields as the President may specify for such purpose, and (B) that the patent rights retained will not be used to serve the special benefit of any organization conducted for profit or of any individual, and will be made available or licensed to applicants on a nonexclusive, uniform, and reasonable royalty basis.

In the administration of the provisions of this subsection, the head of any Government agency shall be guided by such rules and regulations as the President may deem necessary and prescribe by Executive order.

(e) The Administrator shall make a quarterly report to the President and to the Congress concerning contracts and agreements containing the provisions authorized by subsection (d). This report shall include a list of all contracts and agreements containing such a provision entered into by any Government agency during the preceding quarter, the reasons supporting the approval of such provision in each case, the amount of Federal funds expended or to be expended under each contract or agreement containing such a provision, the name of the organization with which the contract or agreement was made, and the general nature of the patent rights reserved for private use in each case. The report shall also include a list of all inventions, discoveries, or findings in which patent rights were permitted to be retained pursuant to the provisions of subsection (d) and which were first recorded or finally authorized during the preceding quarter, identification of the contract or agreement under which such inventions, discoveries, or findings were produced, and the nature of the rights retained. The report shall also include the Administrator's recommendations, if any, for such further Executive or legislative action as may deem necessary.

(f) Notwithstanding any other provision of this Act, the President, or any person designated for that purpose by him, may exempt from the requirements of this Act relating to dedication to the public, publication, dissemination, making available, or reporting information, data, patents, inventions, or discoveries relating to or produced in the course of federally financed research or development or in which the United States holds any rights, if and so long as the President or such designated person determines that such exemption is essential in the interest of national security.

INTERNATIONAL COOPERATION

SEC. 9. (a) The head of any Government agency is hereby authorized, with the approval of the President and through the Department of State, to conclude reciprocal agreements with foreign governments or agencies thereof, relating to the interchange of scientific and technological information (including models and samples for information purposes), and the use and availability of patents and patent rights owned or controlled by the respective governments.

(b) The Administrator is hereby authorized, with the approval of the President and through the Department of State, to cooperate in any international research or development activities consistent with the purposes or provisions of

Act and to expend for such international research activities such sums within the limit of appropriated funds as the Administrator may deem desirable.

(c) The Administrator may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this Act.

INTERDEPARTMENTAL COORDINATION

SEC. 10. (a) There is hereby established an Interdepartmental Committee on Science, to consist of the Administrator, as Chairman, and the heads (or their designees) of such Government agencies engaged in or concerned with the support of scientific activity to a substantial degree as the President may from time to time determine. The Interdepartmental Committee shall meet whenever the Chairman so determines, but not less than once a month.

(b) The Interdepartmental Committee shall advise and assist the Administrator in gathering and correlating data relating to the scientific research and development activities of the Federal Government; shall study and evaluate such data in relation to the program of the Foundation and the scientific research and development programs of the other Government agencies; and shall make such recommendations to the Foundation and other Government agencies as in the opinion of the Committee will serve to aid in effectuating the objectives of this Act and other legislation providing for Federal support of scientific research and development. The Administrator, in consultation with the Interdepartmental Committee, shall, from time to time, make recommendations to the President for the achievement of maximum effectiveness in the conduct of all federally financed research and development.

MISCELLANEOUS

SEC. 11. (a) To enable the Administrator to carry out his powers and duties, there is hereby authorized to be appropriated annually to the Foundation, out of any money in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this Act. The funds appropriated to the Foundation, as herein authorized, and funds hereafter appropriated to any Government agency for scientific research or development, as herein defined, shall, if obligated during the fiscal year for which appropriated, remain available for expenditure for four years following the expiration of the fiscal year for which appropriated. After such a four-year period, the unexpended balances of appropriations shall be carried to the surplus fund and covered into the Treasury.

(b) The materials or equipment purchased by Federal funds or furnished by the Federal Government in connection with research and development activities shall be the property of the United States. The Administrator shall not, however, through the Foundation or its own employees, operate any laboratories, pilot plants, or other such scientific or technical facilities which he may acquire.

(c) In carrying out his functions under this Act, the Administrator is authorized—

(1) to prescribe such rules and regulations as he may deem necessary to govern the manner of the operations of the Foundation and its organization and personnel;

(2) to make such expenditures as may be necessary for carrying out the provisions of the Act;

(3) to enter into contracts, or amendments or modifications of contracts, without performance or other bonds, and without regard to section 3709 of the Revised Statutes (U. S. C., title 41, sec. 5) in the case of all contracts which relate to scientific research or development;

(4) to make advance, progress, and other payments which relate to scientific research or development without regard to the provisions of section 3648 of the Revised Statutes (U. S. C., title 31, sec. 529);

(5) to acquire by purchase, or otherwise, hold and dispose of by sale, lease, loan, or otherwise, real and personal property of all kinds necessary for, or resulting from, scientific research or development; and

(6) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research and development shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws, relating to the expenditure of public funds and accounting therefor.

(d) The provisions of the Reorganization Act of 1945 shall be applicable with respect to the Foundation, and with respect to the transfer of agencies and functions to and from the Foundation, without regard to the provisions of section 5 (e) of such Act.

(e) The Office of Scientific Research and Development; and its constituent committees shall be transferred to the Foundation; together with such of the powers, functions, duties, personnel, property, records, funds, (including all unexpended balances of appropriations, allocations, or other funds now available), contracts, assets, and liabilities as may be determined by the President. The National Roster of Scientific and Specialized Personnel shall be transferred from the Department of Labor to the Foundation, together with such of the personnel, records, property, and balances of appropriations as have been utilized or are available for use in the administration of such roster as may be determined by the President. The transfers provided for in this subsection shall take effect at such time or times as the President shall direct.

(f) If any provision of this Act, or the application of such provision to any person or circumstance, is held invalid, the remainder of this Act, or the application of such provision to persons or circumstances other than those as to which it is held invalid, shall not be affected thereby.

DEFINITIONS

SEC. 12. As used in this Act—

(a) "Research and development" means theoretical analysis, exploration, and experimentation in any field of science (including but not limited to the mathematical, physical, biological, medical, engineering, and social sciences), and the extension of investigative findings and theories of a scientific or technical nature into practical application, including the experimental production and testing of models and processes.

(b) "Federally financed research and development" means research and development conducted directly by the Federal Government and all other research and development financed in whole or in part directly by the Federal Government from funds designated for research and development, under a contract, grant, or other direct form of financial assistance for research and development.

(c) "Government agency" includes departments, independent agencies and commissions, corporations, and other instrumentalities of the Federal Government.

(d) "Organizations" include State and local government agencies, corporations, partnerships, nonprofit institutions, and individuals.

(e) "Scholarships and fellowships" means stipends covering tuition and other fees, and such living, travel, and other expenses as the Administrator may determine.

Mr. PRIEST. The Chair would like to ask unanimous consent to have placed in the record immediately following the printed text of the bills some reports from the Government departments. We have three reports from the Atomic Energy Commission dealing with the three classifications of the bills before the committee. We also have a report from the National Advisory Committee for Aeronautics, one from the Treasury Department, one from the Civil Service Commission, a report from the Department of State, and one from the Department of Agriculture. We also have a report from the Civil Service Commission in which they suggest some amendments that the subcommittee can take up in executive session.

In addition, we have a report from the Department of Labor and one from the Executive Office of the President. There is a further report from the Executive Office of the President, and there is also a report from the National Military Establishment and one from the Federal Security Agency.

Without objection, these reports from the departments will be printed in the record immediately following the text of the bills.

(The reports follow:)

THE SECRETARY OF COMMERCE,
Washington, D. C., March 31, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR MR. CHAIRMAN: This letter is in reply to your recent communications requesting the Department's opinion concerning H. R. 12, 185, 311, 1845, 2308, and 2751, bills to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, and H. R. 359, a bill to promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, and for other purposes.

Since the termination of hostilities, the President and the Congress have been aware of the need for the establishment of a National Science Foundation. A bill to establish a foundation, S. 1850, was introduced into the Seventy-ninth Congress and, after extensive hearings were held, passed the Senate in July of 1946. This bill failed of enactment with the adjournment of the Seventy-ninth Congress.

Numerous bills to obtain this objective were introduced into the first session of the Eightieth Congress. S. 525, a bill similar to S. 1850 of the Seventy-ninth Congress, and S. 526, which provided for a different organizational make-up,¹ were considered by the Senate Committee on Labor and Public Welfare, and S. 526 was reported to the Senate and ultimately passed the Congress. That bill was not approved by the President, and he transmitted to the Congress on August 6, 1947, a memorandum outlining his reasons for withholding approval.

A bill, H. R. 6007, and an identical bill, S. 2385, were then introduced into the second session of the Eightieth Congress. These bills were drafted in an effort to satisfy the President's objection to S. 526 and to secure the best possible legislation on this subject. S. 2385 passed the Senate by a voice vote in May of 1948, but no action was taken by the House. H. R. 6007, although reported favorably by the House Committee on Interstate and Foreign Commerce, failed of enactment with the adjournment of the Eightieth Congress.

A large number of bills have been introduced in the Eighty-first Congress to establish a National Science Foundation. Bills similar to H. R. 6007 and S. 2385 of the Eightieth Congress which have been introduced to date are H. R. 12, 185, 311, 2308, 1845, 2751, and S. 247. One bill, H. R. 359, is similar to S. 1850 of the Seventy-ninth Congress and S. 525 of the Eightieth Congress.

This Department has the following comments concerning the subject bills:

ORGANIZATION

The determination of what organizational structure should be created to operate a Science Foundation has been a central issue in the consideration of past bills on this subject. The problem has revolved around the issue of the extent to which Government policy should be determined and Government funds expended by persons who will act as Government officials only when attending meetings of the Foundation. S. 526 of the Eightieth Congress was vetoed by the President primarily because it was considered unsound in its organizational structure. This bill vested the authority of the Government in a 24-member Foundation, an executive committee chosen by it, and a Director also named by the Foundation. H. R. 6007 (80th Cong., 2d sess.) provided for the appointment of the Director by the President. This modification of the vetoed proposal was made with a view to meeting the President's objection.

Although H. R. 12, 185, 311, 1845, 2308, and 2751 of the Eighty-first Congress provide for the appointment of the Director by the President, it is the opinion of this Department that administrative efficiency would be better assured if these proposals provided for carrying out congressional policy through the executive branch of the Government in the normal manner. Rather than delegating power to persons who, for all practical purposes, are outside the Government, we feel that it would be more advantageous to provide for the placing of all executive responsibility in the hands of the Director or a full-time nonpartisan commission, with an advisory committee set up for consultation. The one-man Admin-

¹ The principal difference between S. 525 and S. 526 (80th Cong.) related to (1) form of administrative organizations, (2) patent policy, (3) the inclusion of social science, and (4) the distribution of research funds.

istrator, acting upon the advice of a nine-man advisory board, provided for in H. R. 359 would provide the more usual type of administrative organization.

It is not because of a lack of confidence in the integrity or wisdom of the prominent citizens who would be the members of the Foundation that the above objection is voiced. It is rather a belief that the formulation and execution of Government policy is a full-time job and private citizens who are Government officials for only a few days a year cannot have the familiarity with the problems of Government administration, so essential to the effective discharge of Government responsibilities and to the avoidance of conflict with established Government policies.

It is recognized by this Department that this view was presented several times to the Eightieth Congress, and was considered in detail at the time of the hearings on S. 525 and S. 526 in 1947 and when H. R. 6007 was considered in 1948. The Department nevertheless continues to favor this view and urges further consideration of the organizational structure of the Foundation in light of the above recommendations.

The proposed bills represent improvement over S. 526 of the Eightieth Congress which was vetoed by the President. They would provide for a Director, appointed by the President, who would exercise all powers set forth in the proposal, subject to the policies developed by the Foundation, and would supervise the contract-research program and the accompanying expenditure of research funds, with the approval of the Foundation's executive committee. Nevertheless, it is believed that additional steps should be taken if the confusion which we feel would be inherent in such an organizational structure is to be minimized. It is recommended that the bills specifically provide for the appointment of a limited number of Government officials as members of the Foundation. The mutual advantage to be gained from joint participation by Government officials and qualified members of the public in approaching the problems of scientific research have been demonstrated by the National Advisory Committee for Aeronautics which includes representatives of interested Government agencies and outstanding authorities from outside of Government. The presence of Government officials on the Foundation would provide some measure of coordination between the Foundation and the broad programs of the executive branch.

In addition, the appointment of Government officials to the Foundation would do much to promote coordination of the activities of existing Government scientific agencies and the Foundation. In view of the presence of such scientific agencies as the National Bureau of Standards, Weather Bureau, and the Coast and Geodetic Survey within the Department of Commerce, the Department is particularly interested in this problem. The only provision in H. R. 12, for example, which seeks to secure some measure of cooperation among existing Government agencies and the Foundation is section 14 (b) which states:

"The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research and development."

In view of the impossibility of precise description of the exact functions or activities of the Government agencies in such a rapidly changing field as scientific research, it is the Department's opinion that existing agencies must coordinate their work with that of the Foundation to avoid duplication. Such coordination, the Department believes, could be obtained through the Inter-departmental Committee on Scientific Research and Development, which was created by Executive order in 1947. There is some recognition of this principle in these bills, for example, H. R. 12 where the Foundation is directed to consult with the Secretary of Defense concerning national defense research, with the Secretary of State when the Foundation cooperates with foreign countries on international research and in the total exemption of the atomic research field from the scope of the Foundation's activities.

The proposals now before the Congress provide for Divisions of Medical Research; Mathematical, Physical, and Engineering Research; Biological Science; Scientific Personnel and Education; and such others as the Foundation may deem necessary. Only in H. R. 359 is specific provision made for a Division of Social Science. Although the other proposed bills do not exclude from the Foundation's jurisdiction social science research, the specific enumeration of specific fields which are all natural sciences may result in the exclusion of social science by implication. The Department urges that consideration be given to either in-

cluding the social sciences in the bill or making certain that their exclusion will not be accomplished by implication.

FUNCTIONS

The proposed functions of the National Science Foundation appear to be sufficiently broad in scope and appropriate to the task in view. The Foundation is directed to develop and encourage basic research by initiating basic research programs through research contracts, by granting scientific scholarships, by correlating its program with that of other private research groups, and by fostering the interchange of scientific information among scientists. To accomplish these functions the Foundation is granted authority to contract, to make advance payments, to purchase property, to use donated funds, to publish findings, to accept the services of uncompensated personnel, and, among other things, to appoint and fix compensation of personnel. The Foundation is authorized to make appointments of scientific personnel without regard to the civil-service laws and the Classification Act of 1923, if deemed desirable by the Director.

The authority given to the Foundation with respect to personnel, contracting authority, and financial matters is necessarily quite broad and the Foundation is exempted from certain laws which are unduly restrictive for research operations. This has been a general trend as new agencies are created, and while it is here appropriate, it should be noted that there are existing scientific agencies which are also in need of many of the provisions of this proposal. It would be most desirable if legislation could be enacted which would grant existing scientific agencies similar authority.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

It is the opinion of this Department that this provision would be of the utmost importance in promoting American science. It is assumed by this Department that Federal Government employees who are qualified shall be eligible to receive such scholarships. There are a great many employees of the Federal Government engaged in scientific work who should be eligible for such awards.

PATENT POLICY

The patent section of these bills, with the exception of H. R. 359, are similar. The first paragraph is concerned with contracts relating to scientific research and states that each contract "shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is made."

This section is short, simple and free of objections which have been raised against patent provisions in previous Science Foundation bills. Under its provisions the Foundation would have to study all the factors affecting a particular contract and incorporate a patent clause designed for the particular situation. The provision is very flexible and would allow for the accumulation of experience in dealing with different situations. The Commissioner of Patents has no objection to a provision of this type.

The second paragraph relates to inventions made by an officer or employee of the Foundation "in connection with performing his assigned activities and which is directly related to the subject matter thereof." The ownership of any resulting patents will be in the Government or at the disposition of the Government. There is no objection to such a provision which, incidentally, would be of only limited application if the Foundation does not have employees conducting research.

The patent provisions of H. R. 359 are far more extensive in detail and in scope than the other Foundation bills. Without commenting on each specific provision, it is the Department's opinion that the detailed elaboration of H. R. 359 on patent policy would be very likely to result in excessive rigidity and those provisions which would establish patent policy for all Government agencies would seem more appropriately the subject of separate patent legislation.

I am advised by the Bureau of the Budget that they would impose no objection to the submission of this report to the Committee.

Sincerely yours,

CHARLES SAWYER,
Secretary of Commerce.

ATOMIC ENERGY COMMISSION,
Washington 25, D. C., March 3, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR CONGRESSMAN CROSSER: This is in reply to a number of recent letters from you requesting the comments of the Atomic Energy Commission on H. R. 12, H. R. 185, H. R. 311, H. R. 1845, H. R. 2308, and H. R. 2751, bills to establish a National Science Foundation. These bills can appropriately be considered as a group; however, H. R. 359 introduced by Mr. Celler raises additional questions, and we will therefore comment on this bill in a subsequent letter.

In commenting on previous legislation on this subject, the Commission has consistently taken the position that it was strongly in favor of the establishment of a science foundation—particularly from the point of view of its formulating a national policy for the promotion of scientific research, coordinating Government support in this field, granting fellowships, and encouraging the interchange of scientific information.

While we have not gone into the details of the administrative structure as provided in the various bills, we have examined the provisions of these bills as they might relate to the operations of the Atomic Energy Commission and we conclude that we would have no objection to their enactment. It is noted that there is a section in each of these bills which provides that "nothing in this section shall supersede or modify any provision of the Atomic Energy Act of 1946." It is further noted that the same section provides for the prior concurrence of the Commission in the case of research and development activities in the field of atomic energy undertaken by the Foundation. Such provision should make it possible to establish a sound coordination of activities of the two agencies in this field.

The Atomic Energy Commission has not been advised by the Bureau of the Budget as to the relationship of these bills to the program of the President.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION.
SUMNER T. PIKE, *Acting Chairman.*

ATOMIC ENERGY COMMISSION,
Washington 25, D. C., March 30, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
Room 1334, House Office Building, Washington, D. C.*

DEAR CONGRESSMAN CROSSER: This is in response to your notification of hearings to be held on a number of bills to establish a National Science Foundation.

The Commission has on numerous occasions expressed its support for the establishment of a science foundation, and recently forwarded comments to your committee on bills which are presently scheduled for consideration. We do not, therefore, think it necessary to request further opportunity to express our views on the bills as presently drafted at this time; but we would, of course, be ready to discuss and questions regarding which your committee thinks our views might be of use in its consideration of these bills.

On March 28 a member of your staff, Mr. Borchardt, requested by telephone that we comment on a suggested amendment to the section relating to atomic energy which is contained in almost all of the bills being considered. This section provides:

"The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946."

The proposed amendment would substitute for the words "in the field of atomic energy" the words "involving fissionable material as defined in the Atomic Energy Act of 1946."

We will forward our comments as soon as possible.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

ATOMIC ENERGY COMMISSION,
Washington 25, D. C., April 1, 1949.

Hon. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington 25, D. C.

DEAR CONGRESSMAN CROSSER: This is in further reference to a request of a number of your committee's staff, Mr. Borchardt, for comment of the Atomic Energy Commission on a suggested amendment to the section in the National Science Foundation bills relating to atomic energy. The section as presently drafted provides:

"SEC. 14. (k) The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 10 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946."

The suggested amendment would substitute for the words "in the field of atomic energy," the words, "involving fissionable material as defined in the Atomic Energy Act of 1946."

The section quoted above was first inserted in S. 526 during the first session of the Eightieth Congress. At that time, its terms and meaning were discussed at considerable length on the floor of the Senate. The primary purpose of the section as we understand it is to provide a general framework for the coordination of the work of the Foundation and the Commission and, at the same time, to preserve the basic responsibilities of the Commission for research and development activities in the field of atomic energy. We understand that it was considered more advisable to use general language in the statute with reference to the area of activity requiring Commission concurrence than to attempt to define in advance the specific areas in which there was to be such concurrence.

We concur in the desirability of the general language presently in the bill. At the same time, we have viewed this section primarily as a proposed legislative framework within which more specific working arrangements with the Foundation can be set up. We have not viewed it as a provision which would result in constant referral to the Commission every time the Foundation takes any step in the field of atomic energy. We believe that the areas that require specific concurrence, and those that do not, are not now susceptible of adequate definition in advance, and that they are better left to the two agencies to agree upon, as concrete problems make the distinctions clearer.

For this reason, we consider the suggested amendment limiting the necessity for prior concurrence of the Commission to activity of the Foundation involving fissionable material to be unduly restrictive. In this connection, it should be emphasized that there are certain fields of highly classified atomic energy research which do not involve fissionable material.

Accordingly, we recommend that the section be preserved as presently drafted. We are advised that the Bureau of the Budget would interpose no objections to the views expressed in this letter.

Sincerely yours,

CARLETON SHUGG, *Deputy General Manager.*

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS,
Washington 25, D. C., March 3, 1949.

Hon. ROBERT CROSSER, M. C.,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, United States Congress, Washington 25, D. C.

DEAR MR. CROSSER: Receipt is acknowledged of your letters of February 1 enclosing for comment bills H. R. 12, H. R. 185, H. R. 311, and H. R. 1845; your letter of February 2 enclosing for comment bill H. R. 359; and your letter of February 7 enclosing for comment bill H. R. 2308. All of these bills concern the establishment of a National Science Foundation.

These bills were considered by the National Advisory Committee for Aeronautics at its meeting on February 10, 1949. It is the judgment of the NACA that it is timely to establish in the Federal structure such a National Science Foundation as is proposed in these bills.

Sound American business principles recognize the effectiveness of a board of directors guiding the policies and operations of an organization through officers

who are subject to the board. An organization similar to this is proposed in all of the bills except H. R. 359, which would place the whole authority in an administrator with a board which would be merely advisory to him. It is believed that highly qualified men who can best guide the destinies of a National Science Foundation would be reluctant to serve under an administrator who would be free to act without regard to their considered judgment. For this reason, the NACA suggests that the form of organization proposed in H. R. 359 is less desirable than that proposed in the other bills.

Section 5 of H. R. 359 would require geographical apportionment of the funds available for research and development activities. It is the opinion of the NACA that such a limitation would not permit sufficient freedom in the Foundation to apportion funds where the greatest national interest would indicate.

The patent provisions of all of the bills except H. R. 359 approach the patent problem realistically and in a manner best calculated to protect the interest of the public and of persons and organizations having relations with the Foundation. The patent provisions of H. R. 359 are set out in greater detail than in the other bills and might be construed so as to discourage individuals and organizations from undertaking federally financed research. The NACA recommends that the patent provisions governing the operations of a National Science Foundation be as simple and realistic as may be consistent with the greatest national interest.

It appears that the establishment of a National Science Foundation will be not inconsistent with the operations of the NACA, since all of the bills except H. R. 359 provide that the Foundation's activities shall supplement and not supersede those of other Government agencies; and H. R. 359 provides that the Foundation shall not operate laboratories, pilot plants, or other such scientific or technical facilities.

In summation, the NACA recommends the passage of legislation to establish a National Science Foundation consistent in form and operation with the foregoing comments.

Sincerely yours,

J. C. HUNSAKER, *Chairman.*

TREASURY DEPARTMENT,
Washington, March 24, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D. C.*

MY DEAR MR. CHAIRMAN: Further reference is made to your request for the views of this Department on H. R. 12, H. R. 185, and H. R. 311, identical bills to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The subject matter of these bills does not primarily involve the activities of the Treasury Department. Certain provisions of interest to the Department, however, are commented on below.

Section 11 (b) of the bills would authorize the National Science Foundation to make such expenditures as may be necessary for administering the provisions of the legislation. Executive Order 6166 of June 10, 1933, established the Division of Disbursement in the Treasury Department as a centralized disbursing service for the executive branch of the Government. The Foundation would be established in the executive branch, and it would be desirable, to avoid possible uncertainty, that section 11 (b) of the bills explicitly provide that disbursements be made by the Division of Disbursement. This could be accomplished by adding "through the Division of Disbursement, Treasury Department," after the word "make" in the subsection.

Section 11 (f) of the bills would authorize the Foundation to receive and use funds donated by others. The Department recommends that the subsection be amended to provide that the donations be deposited as trust funds in the Treasury and appropriated for the stated purposes.

The Department has been advised by the Bureau of the Budget that there is no objection to the submission of this report to your committee.

Very truly yours,

JOHN W. SNYDER,
Secretary of the Treasury.

TREASURY DEPARTMENT,
Washington, April 4, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D. C.*

MY DEAR MR. CHAIRMAN: Further reference is made to your requests for the views of this Department on H. R. 359, H. R. 1845, H. R. 2308, and H. R. 2751, bills to establish a National Science Foundation.

On March 24, 1949, the Department submitted a report to your committee on H. R. 12, H. R. 185, and H. R. 311, similar bills. The comments in that report, a copy of which is attached, are applicable to corresponding provisions in sections 10 or 11 of H. R. 359, H. R. 1845, H. R. 2308, and H. R. 2751.

Very truly yours,

THOMAS J. LYNCH,
Acting Secretary of the Treasury.

DEPARTMENT OF THE INTERIOR,
Washington, April 4, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

MY DEAR MR. CROSSER: The views of this Department have been requested on H. R. 12, H. R. 185, H. R. 311, H. R. 359, H. R. 1845, H. R. 2308, and H. R. 2751, bills to establish a National Science Foundation and for other purposes.

Among the bills in question, H. R. 12, and those other bills which contain the same provisions, appears to provide the most desirable framework for a National Science Foundation.

There is no doubt that national support of scientific research, especially of fundamental and background research, can be expected to yield rich dividends to our national economy. The last war provided ample evidence of the invaluable contributions that can be made by the results of research to warfare; it is high time that we sponsor, as a Nation and under civilian auspices, the research that can make similar contributions to our everyday life in peacetime. A necessary corollary to a research program of this sort is a mechanism to secure the necessary number of adequately trained scientists to participate in it. The scholarship provisions of the several bills, therefore, seem to me most desirable.

The Bureau of the Budget has advised that there is no objection to the submission of this report to your committee.

Sincerely yours,

OSCAR L. CHAPMAN,
Under Secretary of the Interior.

UNITED STATES CIVIL SERVICE COMMISSION,
Washington 25, D. C., March 22, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of January 14, 1949, requesting an expression of the Commission's views on the bill H. R. 12, for the establishment of the National Science Foundation. This report is confined to the provisions of section 15 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 15 (a) would permit the Director, subject to such general directives as may be prescribed by the Executive Committee, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar exempting language. The Commission in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as

amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

The Commission in accordance with established procedure has been informed by the Bureau of the Budget that there would be no objection to the submission of this report to your committee.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

FEDERAL SECURITY AGENCY,
Washington, March 31, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR MR. CHAIRMAN: This is in response to your recent letters on the following National Science Foundation bills: H. R. 12, H. R. 185, H. R. 311, H. R. 359, H. R. 1845, H. R. 2308 and H. R. 2751. In view of the fact that S. 247, on the same subject, has since passed the Senate and is likewise pending before your committee, we take the liberty of including that bill in this report.

All of these bills have the same basic objectives and all of them, except H. R. 359, are similar in their provisions. For the sake of convenience, this report will refer to H. R. 12 as representative of the group comprising that bill and H. R. 185, H. R. 311, and H. R. 2751, and to H. R. 1845 as representative of the group which includes that bill and H. R. 2308 and S. 247. Of these bills, H. R. 12 is identical with H. R. 6007, Eightieth Congress, as reported out by your committee, and H. R. 1845 is identical with S. 2385, Eightieth Congress, as it passed the Senate during that Congress.

In view of the extended legislative history of these and other bills in the present and prior Congresses and the fact that S. 247 has passed the Senate and is now pending before your committee with an explanation supplied by the report of the Senate Committee on Labor and Public Welfare, there is no need here for a detailed analysis of the various bills or for a full statement of our reasons for supporting the general objectives of these bills. Suffice it to say that we are in accord with the necessity of strengthening Federal aid for scientific research and development in this country, especially basic research, and for coordinating such Federal aid. We appreciate also that to attain this objective we must train and educate more scientists and potential scientists. In this connection the committee will of course wish to consider the report and recommendations of the President's Scientific Research Board as well as the report on Federal research submitted the other day to the Congress by the Commission on Organization of the Executive Branch of the Government.

In this report we shall therefore merely attempt to summarize our views on specific aspects of these bills which, in our judgment, require comment as being of particular interest and importance to this Agency.

1. *Administration in general.*—The present bills strengthen the position of the Executive Director (or Administrator in the case of H. R. 359), principally by providing for his appointment by the President. With the exception of H. R. 359, however, they would still leave the determination of administrative policy and, basically, the administration of the funds, primarily in the hands of a part-time group, consisting of persons whose primary interests and activities are private rather than public in nature and who, in view of that fact, would be far more valuable as advisory boards than in the policy determining and to a large extent administrative capacity in which they are cast by these bills. We feel that any Government organization charged with carrying out a public purpose with public funds should be headed by a full-time administrator or board whom the President, the Congress, and the people can hold fully responsible for the faithful and efficient discharge of their functions.

From this point of view, the administrative provisions of H. R. 359 which would make the responsible head of the Foundation an "Administrator" assisted by a number of advisory boards obviously is preferable to the other bills. If, for any reason, however, the committee should feel that the solution offered by H. R. 359 is not acceptable and that basic policy-making functions should be vested in a part-time general board and an executive committee, we believe that the bills represented by H. R. 12 are to be preferred to those like H. R. 1845 to the extent that the former would make the Executive Director at least a nonvoting member of the Foundation and of the Executive Board and would make it clear, as H. R. 1845 does not, that the Director, with the approval of the Foundation or committee, may not only award scholarships and graduate fellowships, but also make contractual and other arrangements for research provided for in the bills. (Compare secs. 6 (b), 10, and 11 of H. R. 12 with secs. 5, 9, and 10 of H. R. 1845.)

2. *Utilization of other Government agencies.*—Section 15 (h) of H. R. 12, etc., section 14 (h) of H. R. 1845, etc., and section 5 (d) of H. R. 359 provide that the activities of the Foundation should be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development. In the light of their context and legislative history, these provisions (see also secs. 10 (c) and 14 (g) of H. R. 1845 and secs. 11 (c) and 15 (g) of H. R. 12) indicate an intent to avoid duplication of governmental effort and to utilize, whenever feasible, the services and facilities of existing Government agencies which by reason of their functions are best equipped to carry out the Foundation's task on its behalf and in accordance with such general policies as it sees fit to prescribe. While the policy of utilization of other agencies is implicit in these bills, and while ample authority for such utilization would exist under the provisions of the Economy Act, we believe it would be desirable, nevertheless, to make this more explicit by inserting in section 14 (h) of H. R. 1845 and 15 (h) of H. R. 12 a specific provision that "In carrying out the provisions of this Act the Foundation shall utilize, to the maximum extent practicable, the services and facilities of existing Government agencies having similar functions."

A clear statement of congressional policy on this point is desirable from our point of view for two reasons. In the first place, in addition to the extensive research activities of the Public Health Service carried on in its own institutions and laboratories, that Service also administers the important provisions of the Public Health Service Act for research grants to State agencies, private agencies, and institutions and individuals, and is therefore the logical agency to carry out many of the Foundation's functions in the fields of medical and biological research. In the second place, this Agency has primary responsibility for governmental activities in the field of education and its services and facilities should be used by the Foundation to administer any fellowship or scholarship program which the Foundation is authorized to undertake. Not only is the Office of Education the duly constituted educational authority of the Government, but also the Public Health Service under existing statutory authority makes fellowship and training grants in the health field.

3. *Fellowship and scholarships.*—All of these bills provide for a program of "scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences." While we are in full agreement as to the imperative need for training and education in the various fields of science, and while I believe that the objectives of the National Science Foundation could not be realized unless some provision for training and education is made, we are also keenly aware of the disadvantages resulting from the limitation of fellowships and scholarships to the scientific field.

The danger of restricting a scholarship and fellowship program to the sciences lies in the resulting tendency to strengthen this particular field of higher education at the expense of other fields not correspondingly subsidized. Also, as respects undergraduate scholarships particularly, it is difficult to perceive how these can feasibly be limited to students in designated fields, because scholarship awards will normally be made either at the time of entrance to college or very soon thereafter. In a great many cases students will not have reached a final choice as to their field of study. Ideally, in a scholarship program, unusual ability and talent however manifested should be the basis of award, since only in this way can it be certain that the young people who may later be of great aid to the research program of the Nation will be prepared to conduct worthwhile research. Preferably, then, Federal scholarship and fellowship aid should extend to all fields of higher education as an integral part of a comprehensive

program of Federal aid to higher education. Lacking such a comprehensive program the dangers of a scholarship and fellowship program limited to the sciences as provided in these bills can and should be mitigated in these ways: (1) By assuring proper emphasis on the social sciences as a field in which scholarships and fellowships will be awarded, thus giving as broad a scope to the program as possible; (2) by assuring that the Foundation will administer at least the over-all aspects of the program through this Agency with its interest in, and responsibility for, progress in higher education generally; and (3) by including in the bill some appropriate provision which would give assurance that the scholarship and fellowship program will be integrated with a comprehensive program of aid to higher education, when such a program is developed and enacted by the Congress. The first two parts of this recommendation are the same in substance as the recommendations made in points 2 and 4 of this letter.

4. *Recognition of social sciences.*—The recognition of the social sciences as included among the sciences in which the Foundation is authorized and directed to initiate and support basic research, is implicit in the reference, in H. R. 12 and H. R. 1845 and similar bills, to "other sciences" and in the provision in these bills which requires the Foundation to "appraise the impact of research upon industrial development and upon the general welfare" (sec. 4 (a) (2)). The importance of the social sciences, however, and the fact that the need for basic research in those sciences is at least as great as in the natural sciences, makes it advisable, in our judgment, to stress the inclusion of the social sciences within the scope of the bill by naming them specifically in conjunction with the other sciences designated in section 4 (a) (2) and to provide specifically for a division of social sciences in section 6 (a). Compare section 3 (b) of H. R. 359, which specifically establishes within the Foundation a "Division of Social Sciences."

5. *Earmarking and allocation of appropriations.*—H. R. 359 would earmark not less than 15 percent of the appropriation for use in the fields of national defense and of health and the medical sciences. While we are not opposed to earmarking for the purpose of health and the medical sciences, we have some doubt that if there is to be any earmarking, defense and the health and medical sciences should be grouped together. We also doubt the soundness of providing for a special division of national defense as would be done by section 3 (b) of H. R. 359, since national defense would be served by research in most of the other fields and since, moreover, most of the research for national defense is applied rather than basic research.

Section 5 (c) of H. R. 359 further provides that not less than 25 percent of the appropriated funds shall be apportioned among the States, partly in equal shares and partly according to population, and be expended only for research and development activities of tax-supported colleges and universities, and that not less than 25 percent shall be expended in the facilities of nonprofit organizations without regard to these limitations as to the apportionment and as to the tax-supported character of the organization. This approach is rejected by the other bills. Certainly, we can see no justification for a provision that any part of the appropriation shall be apportioned among the States in equal shares.

We are advised by the Bureau of the Budget that H. R. 1845, H. R. 2308, and S. 247 are in accord with the program of the President subject to the reservation that these bills be amended to give the Director the same measure of authority in the matter of awarding research contracts and grants as he would exercise under the bills in awarding scholarships and fellowships.

Sincerely yours,

J. DONALD KINGSLEY,
Acting Administrator.

DEPARTMENT OF STATE,
Washington, March 30, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

MY DEAR MR. CROSSER: I refer further to your letters of January 12, 14, 19, and 28, and of February 2, 7, and 16, transmitting for the comment of the Department of State copies of H. R. 311, H. R. 12, H. R. 185, H. R. 1845, H. R. 359, H. R. 2308, and H. R. 2751, bills to promote the progress of science, to advance the national health, prosperity, and welfare, to secure the national defense, and for other purposes.

The Department strongly endorses the purposes of these bills, which are in accord with the recommendation of the President's Scientific Research Board. In expressing its support, the Department recalls that certain foreign governments, such as Great Britain, France, Sweden, and others, have in recent years recognized the increasing importance of promoting scientific progress and have established functioning organizations toward this end. It is believed that the operation of the National Science Foundation will meet an urgent and important need in this country for this type of activity.

The provisions relating to international aspects of the Foundation's program are particularly significant, from the standpoint of the Department. In general, the Department favors a grant of the widest possible latitude to the Foundation in the field of international interchange of science. Such a grant would be in keeping with this Government's participation in the United Nations and its affiliated specialized agencies. In particular, the Department feels that the Foundation should be vested with sufficient power to enter into such reciprocal arrangements with foreign governments as may be necessary for effecting a desirable interchange of scientific information. The section entitled "Authority of Foundation," in specifically authorizing the Foundation to enter into arrangements for carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, scientific activities would appear to provide the means for accomplishing this end. This is section 11 (c) in H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 10 (c) in H. R. 1845 and H. R. 2308. Section 11, entitled "Miscellaneous," in H. R. 359, has substantially the same purpose.

Similarly, subsection (a) of the section entitled "International Cooperation," authorizing the Foundation to cooperate in any international scientific research activities consistent with the purposes of this act, would appear to furnish opportunities for the profitable exchange of scientific knowledge. This is section 13 (a) in H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 12 (a) in H. R. 1845 and H. R. 2308. Section 9 (b) in H. R. 359 is substantively identical.

However, subsection (b) of the section entitled "International Cooperation," empowering the Director to defray expenses of participants in international scientific congresses, would appear to give the Foundation legislative authority to request the Congress to provide funds directly to it to enable the United States to participate in international conferences which the Foundation deems necessary to promote its objectives. Regarding this matter, attention is drawn to the fact that the international contingency appropriation is provided to this Department to enable the United States, in the conduct of its foreign affairs upon the approval of the Secretary of State, to participate in international congresses, such as those described in this section of the bills. Accordingly, the Department of State has had established for many years machinery through its respective coordinating areas for carrying on precisely the functions described in this subsection. This subsection is 9 (c) in H. R. 359.

Finally, the section entitled "Coordination With Foreign Policy," sets forth with sufficient clarity the relation of the Foundation to the Department with respect to international aspects of the Foundation's program. This is section 16 in H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 15 in H. R. 1845 and H. R. 2308. The section does not appear in H. R. 359.

The Department favors the section entitled "Patent Rights." Subsection (a) would appear to balance, within the framework of our present patent law, the protection of public interest with that of private equities. Subsection (b), by permitting a Foundation employee to assign a patent to the Government, affords this Government an opportunity to follow a policy flexible enough to cope with current and changing international patent conditions. This appears in section 12 of H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 11 in H. R. 1845 and H. R. 2308.

Section 8, entitled "Use and Dissemination of Research Findings," in H. R. 359 requires that all inventions made by employees of the Foundation shall be made freely available to the public, or, if patented, shall be dedicated to the public. It should be pointed out that in March 1947 the Interdepartmental Executive Committee on Economic Foreign Policy transmitted to the President certain recommendations bearing on the patenting of inventions developed pursuant to federally financed research. The Committee found that foreign governments owned substantial blocks of United States patents which might be used to interfere with the domestic trade and commerce of the United States. The Committee was therefore convinced of the necessity of negotiating with those foreign governments in order to obtain, for United States nationals, rights

under these foreign patents on a reciprocal basis. This Department believes that, until such negotiations are satisfactorily completed, patents acquired as a result of the work of the Foundation either in the United States or abroad should not be made unconditionally available to foreign governments and foreign nationals.

Because of the urgency of the matter, this report has not been cleared with the Bureau of the Budget, to which copies are being sent.

Sincerely yours,

ERNEST A. GROSS,
Assistant Secretary,
(For the Secretary of State).

DEPARTMENT OF AGRICULTURE,
Washington, March 24, 1949.

HON. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CROSSER: Further reference is made to your requests of January 12, 14, and 19, and February 16, 1949, for reports on H. R. 311, H. R. 12, H. R. 185, and H. R. 2751, respectively; also that of January 28, 1949, relating to H. R. 1845. These are bills to promote the progress of science, to advance the national health, prosperity, and welfare, to secure the national defense, and for other purposes. The first four of these appear to be identical, and the fifth (H. R. 1845) differs from the others only in several slight changes in phraseology which would not, we believe, materially affect the value of the proposed legislation.

The bills have the objective of stimulating scientific research and scientific education through the establishment of a National Science Foundation which would support research activities and the dissemination of technical information and would issue scholarships and fellowships in science. The Department is in hearty sympathy with the objective of the proposed legislation and feels that it is in the public interest for the Government to support scientific investigations and education.

The Department considers that the plan of organization proposed in these bills would prove more satisfactory than the one set up in several earlier National Science Foundation bills. Making the Director of the Foundation responsible to the President of the United States would make it possible for the organization to function through clear-cut channels of responsibility.

Our only general recommendation affecting the substance of the proposed legislation is that provision be made in section 7 for the inclusion of a Social Science Division for work in the social-science field. In our own research work in the Department of Agriculture, we have found that research in the social sciences, especially in economics and economic statistics, is essential to a clear understanding of the functioning of the agricultural economy and the development of an adequate agricultural program. We also feel that research in this same field is just as important to an understanding of other segments of our national economy and, as a result, we believe that careful consideration should be given to including a Social Science Division in any National Science Foundation which may be established.

One modification in detail appeals to us as a desirable improvement in the bills. On page 2, lines 5 and 7, of each bill, the members of the Foundation would be required to be eminent in the fields of the basic sciences, medical science, engineering, education, or public affairs. This phraseology might be interpreted as preventing leaders in applied-science fields, such as agricultural research, from being appointed to the Foundation, since medical science and engineering are the only applied-science fields referred to. It is suggested that eminence in science, engineering, education, or public affairs would constitute a broader description of the type of leadership desired.

The Bureau of the Budget advises that, from the standpoint of the program of the President, there is no objection to the submission of this report.

Sincerely,

CHARLES F. BRANNAN, *Secretary.*

UNITED STATES CIVIL SERVICE COMMISSION,
Washington, D. C., March 22, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of January 12, 1949, requesting an expression of the Commission's views on the bill H. H. 311 for the establishment of the National Science Foundation. This report is confined to the provisions of section 15 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 15 (a) would permit the Director, subject to such general directives as may be prescribed by the Executive Committee, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar exempting language. The Commission in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

The Commission, in accordance with established procedure, has been informed by the Bureau of the Budget that there would be no objection to the submission of this report to your committee.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

DEPARTMENT OF LABOR,
OFFICE OF THE SECRETARY,
Washington, March 29, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR CONGRESSMAN CROSSER: This is in response to your letter of January 12, 1949, requesting a report of the Department of Labor on H. R. 311, a bill to promote the progress of science, to advance the national health, prosperity and welfare, to secure the national defense, and for other purposes.

I favor in general the purpose and provisions of H. R. 311 to create a National Science Foundation with adequate powers and duties in furtherance of research and education in the sciences. I shall, however, confine my detailed comments to aspects of the measure of direct interest to the Department of Labor.

Section 10 (b) of the bill would provide that the Foundation shall maintain a register of scientific and technical personnel and in other ways provide a central clearing house for information covering all scientific and technical personnel in the United States and its possessions. In section 15 (j) of the bill there is provision for the transfer of the national roster of scientific and specialized personnel from the Department of Labor to the Foundation, together with appropriations, records, or property available for the administration of the roster, as the President shall determine.

The maintenance of such a roster is a very important function, and I believe that it properly belongs in the National Science Foundation. Since, however, a close working relationship should be established between the Foundation and the United States Employment Service in order to utilize the Nation-wide facilities of the Service for locating employment opportunities for scientifically trained personnel and for bringing properly qualified personnel to employers, considera-

tion may be given to indicating in the bill the desirability of establishing such a relationship.

With respect to the provisions of section 15 (j) of H. R. 311, transferring the roster from the Department of Labor, I wish to point out that the transfer of the United States Employment Service to the Federal Security Agency has raised some legal questions as to whether the roster is at present a function in the Department of Labor. The uncertain status of the roster at the present time would seem to make advisable the use of broader language in effecting transfer so as to ensure that the roster, the records, and any available appropriations would be transferred regardless of where they are situated at present.

The Bureau of the Budget advises that it has no objection to the submission of this report.

Yours very truly,

MAURICE J. TOBIN,
Secretary of Labor.

UNITED STATES CIVIL SERVICE COMMISSION,
Washington, D. C., March 22, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of January 28, 1949, requesting an expression of the Commission's views on the bill H. R. 1845 for the establishment of the National Science Foundation. This report is confined to the provisions of section 14 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 14 (a) would permit the Director, subject to such policies as the Foundation may from time to time prescribe, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar exempting language. The Commission, in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

Similar personnel provisions appear in the bills H. R. 12, H. R. 185, and H. R. 311. This report is based on the reports submitted to your committee on those bills to which the Bureau of the Budget found no objection.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

NATIONAL MILITARY ESTABLISHMENT,
RESEARCH AND DEVELOPMENT BOARD,
Washington 25, D. C., March 24, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR SIR: This is with reference to your recent letters requesting the views of the Secretary of Defense with respect to H. R. 2751, H. R. 2308, H. R. 1845, H. R. 359, H. R. 185, H. R. 311, and H. R. 12, bills to establish a National Science Foundation. I have been designated by the Secretary of Defense to prepare this report, and it has been coordinated among the Departments and Boards of the

National Military Establishment in accordance with procedures prescribed by the Secretary of Defense.

The establishment of a National Science Foundation will influence so profoundly the cultural and technological development of the country that it is small wonder that it has stimulated so much attention and comment during the past three and a half years. It is to be hoped that all that has been said and done with respect to the Foundation has served to bring about a fuller knowledge and appreciation of the objectives sought and of the most desirable means of achieving them. From the start, with but few exceptions, the need for a Science Foundation has been universally recognized and accepted both from the standpoint of aid and stimulus to research and from the standpoint of increasing the flow of trained scientists. This acceptance is general on the part of qualified scientists and educators in this country, and I believe that representatives of industry are likewise generally aware of the benefits which will accrue to it. We have reached a stage in basic research in many fields in which the complexity and costs of the equipment and instruments necessary for further progress, and the scale of activities are such as to be beyond the resources of individual scientists, of universities and even of the great private foundations. Financial assistance on the part of Government has become a necessity if work is to go forward effectively and speedily. High speed calculators necessary to reduce the enormous mass of experimental data to usable form in a reasonable time, and of course, particle accelerators for nuclear studies are good examples, and there are many others. Moreover, fields such as meteorology and terrestrial magnetism involve world-wide investigations which require Government cooperation.

The need for a National Science Foundation is even greater now than it was 3 years ago. Costs of research relative to endowment income and other available private sources of funds have continued to rise. Costs of education have likewise continued to rise, and a recent study indicates that average university tuition charges have increased about 40 percent since 1939. At the same time, the National Military Establishment, carrying on research and development on new and improved weapons with increasing economy and effectiveness, is reaching the limits of accumulated knowledge of a fundamental character. We are more and more often meeting problems the solution of which is retarded or temporarily prevented by the lack of such knowledge. This is true on all sides not only in the Military Establishment's research but also in the research activities of other Government agencies and of industry. The Foundation will extend on a broad front the basic scientific knowledge which then will become available for application by Government, education, and industry.

The bills before your committee fall into two principal groups. The one group comprises those identical with H. R. 6007 approved by your committee in the Eightieth Congress. The other group consists of bills identical with those passed by the Senate last year and approved by its Labor and Public Welfare Committee this year. Both are entirely satisfactory to us, and they meet the specifications for a suitable form of National Science Foundation which were accepted by all but a few of those interested in this legislation. Moreover, I believe that both groups of bills provide a generally acceptable resolution of all of the controversies which have arisen in the past.

Specifically, they provide for an independent agency in which the wisdom and experience of a rather broad cross section of the leaders of science, industry, and public affairs will be brought to bear on the highly complicated technical problems which the Foundation will be called upon to solve. At the same time, they provide for efficient administration by a well-paid director who will be subject to proper controls within the executive branch of the Government. This latter statement requires some qualification, for the Foundation should not be subject to all of the restrictions imposed upon most executive agencies. Basic research is by its nature unpredictable. It is therefore necessary to permit certain flexibility in the way the Foundation conducts its affairs. It should be able to select individuals and organizations to conduct research on the basis of the policies established by the Congress without competitive bidding and other usual formalities of contracting by executive agencies. It should also be able to support research projects over a considerable period of time, and this requires that its funds remain available beyond the usual period—preferably until expended. In addition, the Foundation should have flexibility with respect to its organizational structure in order that it may adapt itself most effectively from time to time to meet changing circumstances. As the rate of scientific progress

varies in different fields at different times, so the emphasis of the Foundation should shift. Thus it would in all likelihood wish to establish special commissions for cancer and heart diseases, but if the cause and cures should be discovered, the need would cease. Conversely, though the Foundation should be responsive to the backward areas of basic research which are the concern of the National Military Establishment and other Government agencies, relatively simple administrative mechanisms would probably suffice for liaison and co-ordination, but in the event of circumstances requiring mobilization of all or most of our scientific resources, then more highly organized machinery would be established to carry on the necessarily closer relations with the National Military Establishment. In this respect H. R. 1845 and H. R. 2308, in my opinion, are slightly preferable in that they are not quite so specific with respect to the initial organization of the Foundation as are the bills of the other group. However, I have no doubt that the eventual structure of the Foundation would be substantially the same under either type of bill.

H. R. 359 stands apart from the two groups of bills above discussed. In general, it contains the provisions which gave rise to the major issues the resolution of which has been accomplished by both of the groups of bills now before your committee. The most important of these issues have been fully discussed during the past 3 years. Nevertheless, it might be well to touch briefly on one of them—the patent provision.

We should not lose sight of the fact that the main purposes of the Foundation are to sponsor basic research and to provide scholarships and fellowships. It is very unusual to produce patentable inventions in the course of basic research so that the presence or absence of the patent clauses in either of the two groups of bills is of very little importance. Moreover, these provisions do not add any necessary authority and do little more than direct the Foundation to follow a course of action it would probably follow on its own initiative. But, the sweeping provisions of H. R. 359 would have the effect of amending the basic patent law and would apply to all Government agencies. I should hate to see the National Science Foundation legislation become embroiled in a controversy over the important but irrelevant question of general Government policies to govern the acquisition or disposition of patents.

Except for H. R. 359, I believe that any of the bills before your committee would provide a sound and effective organization. I do not think that it is necessary at this time for me to express a preference, for their differences are of a relatively minor nature which I am confident can readily be reconciled. I strongly urge, therefore, that your committee report out at the earliest opportunity any one of either of these groups of bills in order that we may be assured of a National Science Foundation this year.

The Bureau of the Budget has advised that there is no objection to the transmission of this report to you.

Very truly yours,

KARL T. COMPTON,
Chairman.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS,
Washington 25, D. C., March 10, 1949.

HON. ROBERT CROSSER, M. C.,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.

DEAR MR. CROSSER: Permit me, in the absence of Chairman Hunsaker, to respond to your letter of February 16, 1949, enclosing a copy of H. R. 2751, a bill relating to the establishment of a National Science Foundation. This bill is similar to H. R. 12, one of the bills on which the National Advisory Committee for Aeronautics submitted comment to your committee under date of March 3, 1949, after clearance from the Bureau of the Budget.

Three copies of that letter are attached hereto, and the comments contained therein represent the present views of the NACA with relation to the establishment of a National Science Foundation.

Sincerely yours,

J. F. VICTORY,
Executive Secretary.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS,
Washington 25, D. C., March 3, 1949.

Hon. ROBERT CROSSER, M. C.,

*Chairman, Committee on Interstate and Foreign Commerce,
 House of Representatives, Washington 25, D. C.*

DEAR MR. CROSSER: Receipt is acknowledged of your letter of February 1 enclosing for comment bills H. R. 12, H. R. 185, H. R. 311, and H. R. 1845; your letter of February 2 enclosing for comment bill H. R. 359; and your letter of February 7 enclosing for comment bill H. R. 2308. All of these bills concern the establishment of a National Science Foundation.

These bills were considered by the National Advisory Committee for Aeronautics at its meeting on February 10, 1949. It is the judgment of the NACA that it is timely to establish in the Federal structure such a National Science Foundation as is proposed in these bills.

Sound American business principles recognize the effectiveness of a board of directors guiding the policies and operations of an organization through officers who are subject to the Board. An organization similar to this is proposed in all of the bills except H. R. 359, which would place the whole authority in an administrator with a board which would be merely advisory to him. It is believed that highly qualified men who can best guide the destinies of a National Science Foundation would be reluctant to serve under an administrator who would be free to act without regard to their considered judgment. For this reason, the NACA suggests that the form of organization proposed in H. R. 359 is less desirable than that proposed in the other bills.

Section 5 of H. R. 359 would require geographical apportionment of the funds available for research and development activities. It is the opinion of the NACA that such a limitation would not permit sufficient freedom in the Foundation to apportion funds where the greatest national interest would indicate.

The patent provisions of all of the bills except H. R. 359 approach the patent problem realistically and in a manner best calculated to protect the interest of the public and of persons and organizations having relations with the Foundation. The patent provisions of H. R. 359 are set out in greater detail than in the other bills and might be construed so as to discourage individuals and organizations from undertaking federally financed research. The NACA recommends that the patent provisions governing the operations of a National Science Foundation be as simple and realistic as may be consistent with the greatest national interest.

It appears that the establishment of a National Science Foundation will not be inconsistent with the operations of the NACA, since all of the bills except H. R. 359 provide that the Foundation's activities shall supplement and not supersede those of other Government agencies; and H. R. 359 provides that the Foundation shall not operate laboratories, pilot plants, or other such scientific or technical facilities.

In summation, the NACA recommends the passage of legislation to establish a National Science Foundation consistent in form and operation with the foregoing comments.

Sincerely yours,

J. C. HUNSAKER, *Chairman.*

UNITED STATES CIVIL SERVICE COMMISSION,
Washington 25, D. C., March 22, 1945.

Hon. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
 House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of February 16, 1949, requesting an expression of the Commission's views on the bill H. R. 2751 for the establishment of the National Science Foundation. This report is confined to the provisions of section 15 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 15 (a) would permit the Director, subject to such general directives as may be prescribed by the executive committee, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar

exempting language. The Commission in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

Similar personnel provisions appear in the bills H. R. 12, H. R. 185 and H. R. 311. This report is based on the reports submitted to your committee on those bills to which the Bureau of the Budget found no objection.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

DEPARTMENT OF AGRICULTURE,
Washington, April 1, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CROSSER: Further reference is made to your request of February 2, 1949, for a report on H. R. 359, a bill to promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, and for other purposes.

This is one of a group of bills having the objective of stimulating scientific research and scientific education through the establishment of a National Science Foundation. We have heretofore reported to your committee on H. R. 311, H. R. 12, H. R. 185, H. R. 1845, and H. R. 2308, and have expressed our support of the basic principle of such legislation.

The form of organization proposed in H. R. 359 differs quite materially from that proposed in the other bills referred to. Under this bill, the National Science Foundation would be an independent agency of the Federal Government consisting of an administrative organization headed by an Administrator and operating in much the same manner as other Government departments and agencies. The Administrator would consult and advise with a National Science Board of nine members plus the chairmen of several divisional scientific committees.

In view of the fact that the duties of the Foundation largely relate to the determination of grants and contracts for research and the awarding of scholarships and fellowships, it is suggested that the form of organization provided in the five bills previously referred to would be better adapted to the type of Foundation provided for in this legislation. A Foundation of 24 members (as proposed in the other bills) can appropriately be given the responsibility of taking into consideration the wide variety of factors required in the allotment of grants and the awarding of fellowships, and advising the Director accordingly.

The Department questions the detailed requirements specified in section 8 (a) of H. R. 359. The inventory of all current federally financed research and development projects, the publication of significant data, inventions, discoveries, and findings and the establishment of the proposed central register might burden the Foundation to the degree of reducing its usefulness in the development of its principal objective, that of stimulating nongovernmental research and development. If such responsibilities are imposed, it would be difficult to avoid duplication of activities already conducted by other Government agencies.

Subsections (b), (c), and (d) of section 8 go beyond the establishment of a National Science Foundation, in enacting new provision into patent law that would apply to all Government agencies of the United States with respect both to research conducted within their own laboratories and that contracted for through other public or private research organizations. With certain closely restricted exceptions, it would require all inventions produced in the course of federally financed research and development to be made freely available to the public and if patented to be freely dedicated to the public. The experience of this Depart-

ment indicates that such a provision is unwise, as certain types of patents relating to the public health and welfare can be more advantageously be controlled through a license system than if they were to be freely dedicated to the public.

It is further suggested with respect to these three subsections, that a National Science Foundation Act would be an inappropriate piece of legislation in which to include general statutory provisions covering the patent policy of all Federal investigational work. Such legislation is a separate subject and would require careful and detailed examination on its own merits.

The committee's attention is also respectfully directed to section 11 (e) relating to the transfer of the Office of Scientific Research and Development. This paragraph is presumably obsolete in view of the liquidation of that Office some time ago.

For the reasons given, as well as other features in which it seems to us that various pending National Science Foundation bills have more advantageous features, the Department does not recommend the passage of H. R. 359.

The Bureau of the Budget advises that, from the standpoint of the program of the President, there is no objection to the submission of this report.

Sincerely,

CHARLES F. BRANNAN, *Secretary*.

UNITED STATES ATOMIC ENERGY COMMISSION,
Washington 25, D. C., March 15, 1949.

Hon. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.

DEAR CONGRESSMAN CROSSER: This is in response to your request for comment on H. R. 359, a bill to establish a National Science Foundation. We have previously indicated our support for the establishment of a Science Foundation in commenting on a number of other bills on this subject. In our letter of March 3, 1949, we stated, however, that H. R. 359 raised certain questions as to which we would comment in a subsequent letter.

The principal points we would like to make relate to the effect of the passage of this bill on the Atomic Energy Act of 1946, to the coordination of the proposed Foundation's activities with the Atomic Energy Commission, and to the patent provisions in this bill.

At the time Congress was considering the Science Foundation bill (S. 526) in the first session of the Eightieth Congress, the chairman of the Joint Committee on Atomic Energy introduced an amendment, which was adopted, which dealt with the question of coordination of the Foundation's activities with those of the Atomic Energy Commission. The same provisions were also included in S. 2385, in the second session of the Eightieth Congress and have been included in almost all the Science Foundation bills introduced in the present session, including Senate bill S. 247 which was recently reported out of committee. We recommend that if H. R. 359 is used as a basis for Science Foundation legislation by your committee that such a section be included in this bill. The section provides that:

"The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 10 (e) [section dealing with property acquisition] in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946."

In considering the patents section of H. R. 359, it is our feeling that even with the above-quoted section in the bill, which would insure that the patents provision of the Atomic Energy Act would not be amended or superseded, the patent provisions of H. R. 359 are sufficiently comprehensive substantially to affect operations of the Commission in this field, and would raise many new problems for the Commission in its relation to industry and in the negotiation of its research and development contracts. If the committee is planning to go into the patent provisions of H. R. 359 in detail, we would like to have the opportunity to comment further on these provisions at a later date.

The Atomic Energy Commission has not been advised by the Bureau of the Budget as to the relationship of these bills to the program of the President.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,
DAVID E. LILIENTHAL, *Chairman*.

UNITED STATES CIVIL SERVICE COMMISSION,
Washington 25, D. C., March 28, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of February 2, 1949 in which you requested an expression of the Commission's views on H. R. 359, a bill for the establishment of the National Science Foundation.

Section 3 (b) of the bill proposes the establishment within the Foundation of a number of divisions, each to exercise such duties and perform such functions as are prescribed by the Administrator upon advice of the Board. Each division would be headed by a Director to be appointed by the Administrator, the compensation of the Director to be \$12,000 per annum.

Section 3 (c) of H. R. 359 would also empower the Administrator to employ expert scientific, technical, and professional personnel without regard to the civil service laws, and to fix their compensation without regard to the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained language also exempting technical and professional personnel from the provisions of civil service laws and regulations and the Classification Act. When the Commission reported on the bills introduced in the Eightieth Congress, it expressed its objections on the ground that the proposed legislation was violative of the principles of the civil service merit system, particularly that ample provision is had under the system for any necessary exemptions by Executive authority. The Commission must therefore reiterate its opposition to any departure from the civil service merit system in the method of effecting appointments to the positions considered in sections 3 (b) and 3 (c) of H. R. 359.

Furthermore, the Commission believes that as a general rule, legislation which specifically fixes salaries for individual positions, agency by agency, is not as desirable legislation as a salary measure of general coverage. There will shortly be presented to the Congress a proposed revision of the Classification Act which will, among other things, propose the raising of the present salary ceiling of \$10,330 per annum for the career service. General legislation of that type will not only meet current needs but will set for the future new salary levels which in individual cases have been recognized as desirable by Members of Congress in bills introduced in the Eightieth and Eighty-first Congresses. At the time when such a revision of the Classification Act is before the Congress for actual consideration, the Commission would feel itself obliged to object to any special action for a single group of positions in a particular agency which necessarily would fall under such a Classification Act. In the meantime, the Commission would not object to the consideration of the provision of H. R. 359 fixing the salary of \$12,000 per annum for the Division Directors of the National Science Foundation.

The Commission, in accordance with established procedure, has been informed by the Bureau of the Budget that there would be no objection to the submission of the proposed report to your committee.

By direction of the Commission.

Sincerely yours,

HARRY B. MITCHELL, *President.*

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington 25, D. C., March 29, 1949.

HON. J. PERCY PRIEST,
*Chairman, Subcommittee on Public Health, Science, and Commerce,
Committee on Interstate and Foreign Commerce,
United States House of Representatives, Washington 25, D. C.*

MY DEAR MR. PRIEST: I note that S. 247, a bill to create a National Science Foundation, has recently passed the Senate, and that your subcommittee is now considering several bills on this subject, including H. R. 12. On February 7, 1949, I transmitted to the chairman of the Senate Labor and Public Welfare Committee the views of the Bureau of the Budget on the bill then before the Senate committee, and you may find it helpful to know the attitude of the Bureau

of the Budget toward H. R. 12. We have, as you know, given thoughtful consideration to science foundation legislation since the first bills on this subject were introduced in the Seventy-ninth Congress. Through this legislation, which the President has frequently and earnestly requested, the Congress is recognizing that the growth and leadership of our Nation in scientific knowledge must be encouraged by a positive national policy. Consistent with this aim, a National Science Foundation created as a central element of this national policy must take its proper place within our system of responsible and democratic government.

Generally speaking, H. R. 12 appears to provide a workable basis for the establishment and operation of a National Science Foundation. However, I am somewhat disturbed by certain structural rigidities imposed upon the Foundation by the provisions of the bill. I refer to (1) the mandatory provision of an executive committee in section 5, (2) the establishment of a specific divisional structure in section 7, and (3) the establishment of special commissions for specific diseases in section 4 (a) (7). I believe that the purposes of the Foundation would be better served by substituting in each of these instances permissive language which would serve to guide the members of the Foundation in approaching the problem of organization, while recognizing the essential need for flexibility in a major undertaking of this nature where organization must be readily adjusted to the changing frontiers of scientific research. I believe that the details of internal organization should be left up to the good judgment of the Foundation. I refer particularly to the mandatory provision for an executive committee because this provision, different from the other two cited, would not be subject to administrative revision. In this connection, the permissive provision in S. 247 appears to be distinctly preferable.

You will recall that the extent of the Director's authority, particularly with reference to his role in the initiation and approval of contracts, was under discussion between the Senate and the Bureau of the Budget a year ago. This issue was the subject of a letter which my predecessor, Mr. Webb, addressed to Senator Smith last year as the Senate approached final action on the then-pending S. 2385. A copy of this letter is attached for your information. Subsection 6 (b) of H. R. 12 appears to be in accord with the recommendation which Director Webb urged in his letter, and I recommend strongly that this provision be retained in the legislation.

Certain changes in H. R. 12 might be made advantageously with a view toward both the clarification of internal relationships within the Foundation and improved drafting. A list of such possible changes, with further reference to certain points mentioned in this letter, and a marked copy of H. R. 12 are attached for the Committee's consideration.

Representatives of my staff will be glad to discuss these points with you or members of the committee staff.

I trust that these comments will prove useful in the committee's consideration of this important legislation.

Sincerely yours,

FRANK PACE, Jr., *Director.*

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, 25, D. C., May 5, 1948.

HON. ALEXANDER H. SMITH,

United States Senate, Washington 25, D. C.

MY DEAR SENATOR SMITH: The discussion of National Science Foundation legislation in the Senate on May 3 has been called to my attention. In particular I have noted your remarks that the bill, S. 2385, meets the objections raised by the President in his veto of S. 526 last year.

S. 2385 in its present form has not, to my knowledge, been referred to any agency of the executive branch for comment. The Bureau of the Budget memorandum commenting on S. 2385 in its original form made certain suggestions for clarifying the role of the Director, the Executive Committee, and the 24-man Foundation.

It appears that the bill as presently drawn, vests complete authority to make grants and contracts in the 24-man Foundation. By including specific reference to functions of the Director in sections 7, 9, and 12 and striking out the reference to the Director's authority with respect to grants in section 5 (b), it could easily be inferred that it was the intent of the Congress that the Director should have no responsibility with respect to grants and contracts. As you know, in

all of our discussions concerning the organization of the Foundation, the awarding of contracts had been vested in the Director with the concurrence of the Executive Committee. In this way, both the interest of the scientists and the interest of the Government were adequately safeguarded. Without the safeguarding of both of these interests the bill is subject to one of the major criticisms advanced by the President in disapproving S. 526. This was a key point in previous drafts of the bill to which Dr. Shapley and Dr. Bush fully agreed.

It is my impression from reading the report of the Senate committee, that the above resulted from an oversight in revising the original bill. In order to remove any doubt as to the role of the Director in the making of grants and contracts, I recommend, strongly, that the following language be included as a new section 5 (b) in the revised bill:

"The Director shall carry out the policies established by the Foundation and is authorized to exercise the authorities vested in the Foundation in section 10 of this Act: *Provided*, That he shall exercise the authority granted in paragraph (c) of section 10 only with the approval of the Foundation."

Sincerely yours,

JAMES E. WEBB, *Director*.

SUGGESTED DRAFTING REVISIONS IN H. R. 12

1. Clarification of internal relationships

Throughout H. R. 12 as presently drafted, the bill confers functions and authorities upon the "Foundation" without making it clear that these powers are conferred in certain instances upon the 24-member group and in other instances upon the Foundation as a governmental agency. It would appear that these ambiguities could be cleared up through the process of redrafting. One workable approach to the problem would involve the following changes:

Section 2: A second sentence would be added to what already appears in this section, which would read "The Foundation shall consist of a National Science Board (hereinafter referred to as the 'Board') and a Director."

Section 3 would be given a new title heading to read "Membership of the Board." Throughout section 3, the word "Board" would be used in lieu of the term "Foundation."

The word "Board" would be substituted for the term "Foundation" (and in some cases for the words "Executive Committee," as indicated in the third section of these suggestions, below) elsewhere throughout the bill at each point where it is intended to refer to the 24-member group. It is believed that the following list covers all of these points:

[Page 2, lines 1, 2, and 19; page 3, lines 4 and 9; page 4, line 18; page 5, lines 3, 7, 12, 19, and 21; page 8, lines 2, 4, 7, and 22; page 9, lines 5, 7, 12, 15, 20, and 21; page 10, lines 12 and 24; page 14, line 18; page 15, lines 14 and 22; page 16, lines 9, 14, 16, and 23; and page 17, line 13.]

It is not intended that this change in the designation of the 24-member group should in any way diminish the authority of that body as already provided in the bill, nor change the authority of the Director. It is simply a clarifying revision, resembling in some outward respects the structure of the Tennessee Valley Authority, which consists of the Authority itself, a Board of Directors, and a General Manager. There would result a useful distinction among the Foundation as an agency, the Board, and the Director.

2. Establishment of special commissions

Section 4(a) (7) would specifically require the initial establishment of special commissions on cancer, on heart and cardiovascular diseases, and on poliomyelitis and other degenerative diseases, as well as authorize the Foundation to establish such other special commissions as it might deem necessary. It would appear that the purposes of the legislation would be better served by omitting reference to specific diseases and providing simply for the establishment of such special commissions as the Foundation may from time to time deem necessary.

3. Creation of executive committee

Section 5 creates and gives certain powers and duties to an executive committee. In subsequent sections of the bill specific additional powers and duties are assigned to this committee. This mandatory provision of an executive committee and the assignment to it of specific functions introduces an undesirable degree of rigidity into the statutory framework of the Foundation. While

there is little doubt but that the 24-member group would wish to create an executive committee for the efficient conduct of its business, this could be appropriately provided for if the committee considers it necessary, by the introduction into section 4 of a paragraph along the lines of paragraph 4 (e) of S. 247, which reads as follows:

"(e) The Foundation is authorized to appoint from among its members an executive committee and from time to time to appoint from among its members or otherwise, such other committees as it deems necessary and to assign to such executive committee or other committees such powers and functions as it deems appropriate for the purposes of this act."

Directly related to the suggestion that section 5 be deleted and replaced by a permissible paragraph in section 4 is the suggestion that the words "Executive Committee" be replaced by the word "Foundation" (or by the word "Board"; see the first section of these suggestions) wherever they now appear in the bill, except on lines 20 and 21 of page 7, where all after the word "Foundation" on line 20, page 7, would be stricken.

4. Director's right to vote

It is suggested that the word "nonvoting" be deleted from section 6 (a) of the bill, on lines 19 and 20 of page 7; it would appear that the Director ought not be denied the right to vote in his capacity of an ex officio member of the Foundation.

5. Authority of Director over contracts and grants

The spirit of paragraph 6 (b) in H. R. 12 meets adequately the need for clarification of the authority of the Director with respect to contracts and grants. However, it is believed that, if the proposal in the first section of these suggestions relative to the idea of a board is accepted, the sense of paragraph 6 (b) could be clarified and made more meaningful by revision along the following lines:

Subsection 6 (b): "The Director shall carry out the policies established by the Board, and is authorized to exercise the authorities vested in the Foundation in section 10 of this act: *Provided*, That he shall exercise the authority granted in paragraph (c) of section 10 only with the approval of the Board."

6. Compensation of the Director

Section 6 provides for the appointment and compensation of a Director. It is suggested that the committee may wish to give consideration to increasing the rate of compensation of the Director to \$17,500 per annum, thereby bringing it up to a level consistent with pending Federal pay legislation.

7. Divisions within the Foundation

Section 7 of the pending bill enumerates the four principal divisions to be established in the Foundation. Inasmuch as this provision does not seek to prescribe the permanent organization of the Foundation, and since the Board is empowered to disestablish even the enumerated divisions, it would appear to be sound to strike paragraph (a) in entirety, enabling the Board under subsection (b) to determine from the outset the internal structure best suited to effectuate whatever program the Board may evolve.

8. Authority of the Foundation

It is recommended that in section 11, on page 11 at line 12, after the word "empowered" there be inserted the following qualifying language: "within the limits of available appropriations."

This amendment has the purpose of limiting the Foundation's authority to enter into contracts by requiring that funds be appropriated as a condition precedent to the incurring of contractual obligations. It is a standard fiscal provision which will not in any way interfere with the proper administration of the Foundation's business.

9. Research contracts

With reference to subsection 11 (c), on page 12 at line 3, it is noted that the use of the qualifying adjective "basic" before the word "research" is more limiting on the authority of the Foundation than is the case in subsection 11 (d), 11 (e), and 11 (i). In the latter cases the legislation speaks of research without qualifying it as "basic." It is further noted that while the Foundation is empowered by subsection 4 (a) (3) to conduct research (without qualification of that term) in connection with matters relating to the national defense, the Foundation is limited by subsection 11 (c) to contracts for "basic" research. Accordingly, it

is suggested that the committee may wish to consider deleting the term "basic" on page 12 at line 3, thereby rendering that subsection consistent with other provisions of the bill. This should in no sense run counter to what is believed to be the intent of the committee that the main focus of the Foundation shall be upon basic research.

10. Appropriations

Section 14 authorizes funds to be appropriated for the purposes of the legislation. It is noted that subsection (b) extends the availability of such funds for 4 years for expenditure purposes, but the language infers that the Foundation is limited to only 1 year's availability for obligation purposes. It has been our experience that the very nature of research requires flexibility in appropriation structure permitting either freedom or restraint in the light of changing conditions. For this reason, the Bureau considers it desirable to avoid specific provisions on the availability of research funds insofar as enabling legislation is concerned, preferring to leave the decision to be resolved in the appropriation acts.

Accordingly, it is recommended that the committee consider a substitute for subsection 14 (b), to read as follows:

"(b) Appropriations made pursuant to the authority provided in subsection (a) shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the acts making such appropriations."

11. Compensation of the Deputy Director

On page 16 at line 18, it is recommended that a period be placed after the word "Director," and that the words "and who shall receive compensation at a rate not to exceed \$12,000 per annum" be deleted. The Deputy Director's rate of compensation would be handled, instead, under general legislation dealing with revision of the Classification Act.

12. Compensation of members of the Board

It is noted that the bill in subsection 15 (d) would compensate Board members and other part-time officials at a rate not to exceed \$25 per day. It is recommended that this provision be changed to substitute a rate of \$50 per day for members of the Board, and \$35 per day for members of divisional committees and special commissions. These revisions would provide a scale of compensation directly comparable with provisions of the Atomic Energy Act of 1946 (Public Law 585, 79th Cong.), which provides \$50 per day for members of AEC's General Advisory Committee, and the National Security Act of 1947 (Public Law 253, 80th Cong.), which provides \$35 per day for persons serving in an advisory capacity to the Secretary of Defense.

13. Exemptions from prosecution

Subsection 15 (f) exempts members of the Board, divisional committees, and special commissions from prosecution under certain legislation of general applicability. It is believed that the committee should consider revisions and further exemptions enacted by the Eightieth Congress. Specifically, reference is made to sections 281, 283, and 284 of title 18, U. S. C. (Public Law 772, 80th Cong.), and section 190 of the Revised Statutes (5 U. S. C. 99).

14. Relationship to other Government agencies

Subsection 15 (h) provides that the activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions of other Government agencies authorized to engage in scientific research or development. It is felt that this subsection might, at some future time, constitute an obstacle to the improved coordination of research activities.

15. National scientific roster

Subsection 15 (j) refers to the National Roster of Scientific and Specialized Personnel, which was created early in the war by Executive order, but which has been inactive for some time past. It is located in the United States Employment Service, which was transferred to the Federal Security Agency by the Eightieth Congress. It is suggested, therefore, that "United States Employment Service" be substituted for "Department of Labor" in paragraph 15 (j); this solution is deemed preferable to substituting "Federal Security Agency" in view of the possibility that USES may be returned to the Department of Labor. It is suggested, further, that "the Director of the Bureau of the Budget" be substituted for "the President" on lines 10 and 12, page 19.

The attention of the committee is invited to the fact that a postwar roster of scientific personnel has been established by the Office of Naval Research; it is intended that this roster would be transferred to the Foundation by administrative action upon its establishment.

16. Coordination with foreign policy

It is suggested that the structure of the bill might be simplified by transposing section 16 in its entirety to section 13, which deals with the same general subject matter. The result would be that section 13 would be lengthened by the addition of the two subsections which presently comprise section 16.

Mr. PRIEST. Before proceeding with hearing testimony, the Chair desires to make a statement giving in brief some of the background to the legislation now before the subcommittee. The bills before us today and on which we will hear testimony during these hearings have a rather long history.

It all started perhaps with the birth of the Republic when George Washington suggested to Dr. Benjamin Rush of Pennsylvania that it might be well for the United States Government, in the interest of the promotion of science, to establish a University of the United States. The more recent history of the Science Foundation legislation begins in November 1944 when President Roosevelt wrote a letter to Dr. Vannevar Bush, Director of the wartime Office of Scientific Research and Development asking him to prepare for him a report on a postwar science program.

President Roosevelt had passed away when Dr. Bush submitted his report in July 1945. His report was entitled "Science, the Endless Frontier." It became the basis for Science Foundation legislation which we are considering today because it recommended the establishment of a National Research Foundation with broad powers and functions for fostering American science.

Shortly after the submission of the report and essentially based on its recommendations, identical Science Foundation bills were introduced in the Seventy-ninth Congress by Senator Magnuson and Representative Mills. Other measures were introduced by Senators Kilgore and Fulbright.

When, in September of 1945, President Truman called Congress into special session to enact a 21-point postwar domestic program, one of the points urged the establishment of a single Federal research agency. Following the President's request, hearings were begun in the Senate on the various Science Foundation bills which continued through October of 1945.

Three principal points were in dispute: (1) the question of the organization of the Foundation, (2) the inclusion or exclusion of the social sciences, and (3) what kind of patent provisions should be included in the bill.

In the following year, the Senate committee reported out S. 1850 which would have made extensive changes in the patent laws of the United States with respect to inventions made with the financial support of the Federal Government. The bill, as pointed out, would further have included a social science division and would have placed considerable control in the President of the United States.

Our own committee, late in May of 1946, held hearings on H. R. 6448, introduced by Representative Mills. This bill was a revised version of his original Science Foundation bill.

In July of 1946, the Senate passed S. 1850 by a vote of 48 to 18. The House took no action and all bills died with the close of the Seventy-ninth Congress.

During the Eightieth Congress, the Senate saw the introduction of S. 526 sponsored by a bipartisan group of six Senators and the House had also before it a number of Science Foundation bills. The Senate bill was passed by the Senate in May by a vote of 79 to 8.

In the House, this committee held extensive hearings and as a result of the hearings, H. R. 4102 was introduced, reported favorably by the committee, and passed by the House, striking out the text of S. 526.

S. 526 then went to conference and both Houses approved the conference report. It was this bill which died by pocket veto. President Truman stated that he had vetoed the bill with great reluctance for he was convinced of the urgent need for the establishment of the Foundation but he felt that the bill passed by Congress vested the determination of vital national policies and the expenditure of large public funds in a group of individuals who would be essentially private citizens. This, the President stated, was a marked departure from sound principles for the administration of public affairs that he could not give his approval.

In 1948 during the second session of the Eightieth Congress, new bills were introduced both in the Senate and in the House—S. 2385 and H. R. 6007. These bills were identical and constituted a compromise worked out following conferences between some Members of Congress and White House advisers. In May 1948, the Senate passed the new measure by a voice vote. In the House our committee held brief hearings and reported favorably H. R. 6007 which differed in a few respects from S. 2385 passed earlier by the Senate. The bill failed to reach the floor and, therefore, the Science Foundation legislation did not materialize during the Eightieth Congress.

In the Eighty-first Congress, in the Senate, there was introduced S. 247 which is identical with S. 2385, the last Science Foundation bill passed by the Senate during the second session of the Eightieth Congress. This bill passed the Senate without amendment and is now before us.

In the House seven bills have been introduced which fall into three groups. Four of these bills are identical with H. R. 6007, reported favorably by this committee during the Eightieth Congress, which differs in some respects from S. 247. These bills are H. R. 12, introduced by myself, H. R. 185, introduced by Mr. Harris, H. R. 311, introduced by Mr. Wolverton, and H. R. 2751 introduced by Mr. Biemiller.

The second group consists of H. R. 1845, introduced by Mr. Van Zandt, and H. R. 2308, introduced by Mr. Mills, which are in all respects identical with S. 247 which, as I have already stated, is also before us today.

The third group consists of a single bill, H. R. 359 introduced by Mr. Celler, which differs substantially from the bills in the first two groups with respect to the organization of the Foundation, the inclusion of social sciences, and patent provisions.

The purpose of the hearings this morning is, primarily, to give the new members of this committee and the many new Members of the House the benefit of up-to-date testimony on the need for Science

Foundation legislation, and give witnesses who may desire to be heard an opportunity to be heard on the legislation.

We have a number of witnesses scheduled for today, tomorrow, and Monday.

I was told just a few minutes ago that Dr. Bronk had been unavoidably delayed and might require a little longer time. Dr. Bronk, we will be glad to hear you now.

STATEMENT OF DR. DETLEV W. BRONK, CHAIRMAN, NATIONAL RESEARCH COUNCIL, AND PRESIDENT OF THE JOHNS HOPKINS UNIVERSITY

Mr. PRIEST. It is the custom of this subcommittee, as of the full committee, to permit witnesses to make their original statements insofar as possible without interruption and then to answer questions by members of the committee.

Dr. Bronk, will you give your full name and your identification?

Dr. BRONK. My name is Dr. Detlev W. Bronk, chairman of the National Research Council and president of Johns Hopkins University.

I have had the pleasure of appearing before Mr. Priest on many occasions, and it is a great pleasure to meet him again and the members of the committee.

I am much impressed for the great care and thought which the committees of the Senate and the House have given to this science legislation over the past years. I think it is extraordinarily desirable that great wisdom should be exercised in the development of new legislation which is directed toward the creation of a new agency, and I think it is highly desirable that there should be careful consideration as to the method for the creation of a new agency.

If I may speak briefly to that point, I would say that I consider that one of the bases for the need for a Science Foundation which is under consideration and these several bills stems from the recent war which has shown the possibility of domination by country which is scientifically powerful.

I need not remind you gentlemen that numbers of men are relatively less important than they used to be and the importance of scientific preparation is more important than it ever has been before.

Living as we do in a state of international tension, it is unthinkable that our country, or any of our allies, should not be alive to any information maintaining the high stage of scientific development in order that we may be prepared for any eventuality which might arise.

I need not remind you that certain potential enemies of this country are fully aware of the power of science in their efforts for military strength and military power.

Because of that consideration alone, I take it that a National Science Foundation is of utmost importance to the Nation and to the security of the Nation.

I would say that a second basis for the need for a National Science Foundation grows out of the fact that our geographical frontiers no longer exist. If we are to maintain an expanding economy and maintain an ever-increasing standard of living, we cannot depend, as we did in the early days of this country, upon new geographical fron-

tiers: but as Dr. Bush emphasized in his report to the President, in Science, the Endless Frontier, we have other frontiers which can be developed and science is foremost among those.

Out of scientific research there come new materials. You are fully aware of the extraordinary range of new materials available for our present use that have come out of the laboratory. You are aware of the fact that new processes are constantly being developed as a result of scientific research.

Scientific research is the basis for the discovery of new and more plentiful supplies of food. This is especially important at a time when our natural resources are being used at an ever-increasing speed, and I am not one who views this with alarm, provided we will utilize what science offers to us in the discovery of new sources of natural resources.

Out of scientific research and scientific developments come new industries which will be the very foundation for our future economy.

Thirdly, I would say that the basis for the need for a National Science Foundation grows out of the continual expanding structure of our modern civilization which is already so largely dependent upon science and technology. Every new advance which is made brings with it new problems which must be solved by still more research.

I would remind you of the fact that transportation has come as a result of scientific and technological discoveries but we are fully aware of the fact that transportation as it is now developing requires considerable research in order to solve the problems which are evolving out of new methods. If you will consider for a moment air transportation alone, you will readily see that each new development in aeronautics brings with it new problems which must be solved by research. If the discovery of scientists and technologists are to be utilized and to be utilized safely, each new development in the field of medicine which improves human welfare brings new problems with regard to the development of people more wisely, after they have been saved from disease or have been rehabilitated physically.

Each new development of new materials makes possible the development of new processes but, if those new processes are to be utilized we must have research in order that the new contributions can be applied to the new possibilities which are opened up.

And so each new stage in our civilization, if we are to go forward, requires more research in order that we can utilize the past accomplishments, and I for one, do not believe it is possible to stand still. Either we will go backward or we will go forward. If we go forward it will be because of the greater and the wiser use of science and technological procedures.

In the fourth instance, I would state that the need for the National Science Foundation is accentuated by our present position of world leadership.

Whether we desire it or not, we now occupy a dominant position in the world. The fact that you gentlemen have taken the position you have with regard to the support of our fellow citizens in the democratic countries, shows that you recognize this fact; but if we are to exercise our position of world leadership, at a time when science is so dominant in the world as a whole, will we not have to assume responsibility in leadership in the field of science and technology as well as

in the mere provision of material resources? That, I take it, is one of the lessons to be drawn from Mr. Truman's point 4, as presented to you this past winter.

In the fifth instance I would say that the need for the National Science Foundation grows out of the necessity to supplement the research of governmental agencies which are directed to the more efficient operation of those agencies, with research which must be carried on in the universities from which come the new supply of scientists.

Those scientists are the only sources of science. I would not advocate any cessation of the scientific activities of existing governmental agencies. I would, in fact, argue for the greater development of science in those agencies, in order that they may carry out their functions more effectively; but I think that you will find that those engaged in governmental scientific research fully recognize the necessity for support of research in universities from which we derive the scientists who will be called upon to operate industry and government and carry on the research of the future.

And finally, I would say that the importance of the National Science Foundation evolves from the fact that we can no longer afford to leave scientific discovery and the solution of practical problems to mere chance; to the mere chance of private philanthropy. The development and production of natural resources has always been recognized as a primary function of the National Government. I can think of no national resource at the present time, which is of greater importance than scientific knowledge and scientific manpower and, therefore, I believe that the support of science through a National Science Foundation, is one of the most important functions of the Government at the present time.

I have referred to the fact that I do not believe we can afford to leave such a very important activity of the Nation to the chance support of private individuals. I would add to that the statement that it is so easy for many to see the value of practical contributions for research directed to immediate objectives, as compared to the necessity for support of fundamental scientific research.

In the past the United States has been in the habit of drawing upon the fundamental discoveries of scientists in European countries. Because of our expanding geographical frontiers it has been natural that we should draw upon those fundamental discoveries and apply them to our immediate, practical problems. There was great opportunity as de Toqueville said 100 years ago, in discussing American democracy, it is a characteristic of a country such as ours has been to give greater emphasis to practical advances rather than to fundamental discoveries, but we are now in a position where we can no longer depend upon the fundamental discoveries of scientists of other countries, and this for several reasons: In the first place, the resources of other countries have been sadly depleted and they are not in a position to make the fundamental discoveries for us to apply, and furthermore, if we hold a position of world leadership, it seems to me that that carries the responsibility for developing fundamental research as well as for making the practical applications.

Finally if other countries are not able to make the fundamental discoveries which we have utilized in the past, from what source will

we obtain the basic information which we will need in order to carry on our technical civilization?

The advances which were made during this past war by the Office of Scientific Research and Development, have been frequently admitted to have depended upon the scientific discoveries of a fundamental nature which had been made in the past.

Unless we continue to lay the foundations for future practical discoveries, we will not be in a position to make future practical advances.

And so I believe that one of the most important contributions of a National Science Foundation will be to support and strengthen the fundamental exploratory research in this country, upon which industrial laboratories, Government laboratories, and our many technological applications can be based upon a firm support.

If you consider the present support in the field of medical research, you will find that there are many who are prepared to contribute financial assistance either through governmental agencies or through private philanthropies for the study of cancer; for the study of infantile paralysis; for the study of rheumatism and for many other practical problems of great urgency which face us; but I would ask you how many there are among governmental agencies or among private contributors who recognize the necessity for supporting biologists who wish to investigate biological problems merely because of their curiosity and yet the whole history of science emphasizes the fact that it is the following of human curiosity of scientists which lays the foundation for the practical discoveries which can be based upon those initial investigations.

Unless we are prepared to support the biologists who are investigating the nature of life and the mechanism of living processes, without thought as to whether they are immediately applicable to a certain disease, I predict that we will soon be in a position where we will not have the foundations upon which we can erect a structure of practical medical advance and this will be one of the important responsibilities of the Science Foundation, to see to it that scientific investigators are supported even though it is not immediately apparent that their contributions will be of great human benefit.

If there were any need to cite examples of the past, I might point, as I have pointed before, to the discoveries of Michael Faraday, who, working in the Royal Institution of London, merely because he was curious about physical phenomena, discovered the laws of electromagnetic induction among other phenomena and because of those discoveries there is now available to us the incalculable benefits of the whole electrical industry which could not have been founded had it not been that someone was prepared to support Michael Faraday in following out his curiosity.

Many of you are aware of the progress which has been made in the development of agriculture because of our knowledge of genetics by Gregor Mendel, working in the garden of a monastery, at the instance of his curiosity, and who could not see what was going to come out of his discoveries, and yet it was those discoveries which laid the foundation upon which modern agriculture depends in very considerable part.

Another famous example is our own Willard Gibbs, working on the campus of Yale University, with no thought as to whether he was making any practical contribution to the welfare of the Nation, and

yet chemists will tell us that much of modern chemistry and the modern chemical industry depends upon the discoveries, theoretical and practical, of Willard Gibbs, who had no practical thought in mind at the time.

And so if we are concerned with the future, as the Government always has been concerned with the future, in the protection of our natural resources, I would plead for a strong emphasis upon the support of scientists who are prepared, through their curiosity and their scientific training, to lay the foundations for the discoveries of practical value in the future; scientists who are prepared to blaze the way in undiscovered territory which will make possible a better and richer Nation in the future.

This leads me to say that another important contribution of the National Science Foundation can be the better development of more trained scientists, so that we will have more men capable of dealing with the practical problems which face us everyday; more men will be capable of lending support to the defenses of our Nation and who will be able, in case of a national emergency; and men who will be continually expanding the limitless frontiers of science.

But when I have said that I wish to raise the question as to whether it is appropriate for the Nation to depend entirely upon the chance of family fortune for the creation of a pool of scientists upon whom the Nation must depend.

The trained scientist requires not only his elementary and secondary education but also college and university training and usually 4 years of graduate training after that, often followed by another 2 years of specialized research training.

It is not possible for many of our ablest young men to finance this long, prolonged period of education; because of that it seems to me an important responsibility of our Government to provide for their training in order that we may be able to rely upon the best from whatever State or family fortune they may originate.

In this connection I think it is appropriate to comment on the Atomic Energy Commission program of fellowships. This is a far-sighted undertaking to increase the pool of scientific potential of our country, in regard to men who are capable of carrying out the important undertaking of the Atomic Energy Commission; but unless this be done more generally, I do not see from what source we can derive the men upon whom our national future depends in such large measure.

Following that, I would raise the question as to what will be the future of scientists trained in ever increasing numbers in order to meet our needs, unless there be some stability of financial support for their employment.

I return to my previous remark, that it is not wise at the present day to depend entirely upon the chance support of individual philanthropists, even though the number who are contributing to science is increasing very largely, indeed. Nor is it wise to depend on State support of institutions which are primarily directed toward educational procedures.

I believe that the National Science Foundation offers an extraordinary opportunity to demonstrate how the Federal Government can cooperate with individual citizens and private institutions, and State institutions, and carrying out one of the most important functions of

the National Government at the time when science and technology are so essential in the whole workings of our Federal Government and our private industries and in the manifold undertakings which promote the welfare of our citizens.

Finally, in closing, I would like to refer, as Mr. Priest has done, to the many discussions which have been held concerning the various forms of the National Science Foundation as proposed and as desired.

I think it has been well that we should have frank and free discussion as to the form of organization, for this is a new undertaking; but I would say that having had these discussions and having had emphasis over and over again that freedom for the scientists is absolutely essential. We can now proceed with complete assurance that whatever bill is passed, it will be workable and will be acceptable to the scientists of the country, only provided they be provided with that freedom which is so essential.

I would stress that matter of freedom, because there is an appeal to the idea of having a central body which will direct large numbers of scientific investigators toward the solution of a specific end, and this has worked frequently, especially in the stages of scientific development when the end is apparent and when the means are available; but the basic research upon which all scientific progress depends cannot be directed.

It will depend, as I have said, upon the individual curiosity of individual scientists, no one can tell from what source will come a new and brilliant idea. At this point I might add that there are several reasons for believing that many scientists will be able to contribute many ideas rather than that many ideas will stem from a single mind directed as a mere workman, working under direction.

But, with assurance that the National Science Foundation will provide freedom for investigation by those who are trained to investigate and those who are endowed with curiosity, I believe that the form of the bill is relatively secondary.

Scientists have, during the past 10 years, learned as they had never known before, how to work and how to cooperate with Government. They have come to realize representatives of Government in both the legislative, executive, and administrative arms are desirous of having their advice.

I think we are all becoming more aware of the fact that under our democratic form of government, the operation of whatever legislation is passed, in the last analysis, depends on the citizens of this country, provided only that they are prepared to work in cooperation with you gentlemen, and you or your colleagues in Washington.

So I would express my personal conviction that whatever legislation is passed, directed toward the accomplishment of the general purpose of the National Science Foundation, will be acceptable and will be workable, and will command the support of the scientists of this country.

MR. PRIEST. This committee is always happy to have you appear. You are always very helpful.

Before any questions are asked, the Chair on behalf of the entire subcommittee wishes to express deep appreciation for the presence this morning of our chairman of the full committee, Mr. Crosser, and also the ranking minority member, Mr. Wolverton, both of whom

have in the past been very interested in this legislation. Are there any questions, gentlemen?

I have just one brief question, Dr. Bronk. I think it can be very brief and will not require very much time at this point.

The chief purpose of this legislation is to foster and promote basic research as contrasted to applied research. I think if you could just very briefly give the definition at this point of the difference between basic and applied research it might be helpful?

Dr. BRONK. Perhaps it would be easier, Mr. Priest, if we were to define basic research as exploratory research, and that, I think, will make the contrast more apparent.

It is not possible to direct the course of an explorer to unexplored territory, and that I think is one of the primary characteristics of basic or exploratory research.

Applied research is the application of already discovered fundamental scientific knowledge to a specific objective, and that can be carried out under an organized system far more readily than can the exploration of the individual investigator.

Mr. PRIEST. Thank you, Dr. Bronk. It is always such a pleasure to have you before this committee.

Dr. BRONK. Thank you.

STATEMENT OF SIR ROBERT WATSON-WATT, LONDON S. W. 1

Mr. PRIEST. The subcommittee feels quite honored to have as a visitor here today one of the distinguished scientists of the world, Sir Robert Watson-Watt, who has come here to attend a science conference. He has now made his sixteenth visit to this country since Pearl Harbor. He has quite an array of titles. He is chief, telecommunications adviser to the Ministry of Civil Aviation; scientific adviser on telecommunications to the Air Ministry and to the Ministry of Supply; scientific adviser on radio aids to navigation in the Ministry of Transport; governing director of Sir Robert Watson-Watt & Partners, Ltd., who are scientific advisers and consultants to industry; vice president of the Institute of Navigation; president of the Royal Meteorological Society; fellow of the Royal Society of London; and enjoys the following honorary titles: Companion of the Bath; doctor of laws from St. Andrews; doctor of science from Toronto; United States medal for merit; Hughes medal of the Royal Society; and Valdemar Poulson medal of the Danish Academy of the Technical Sciences.

I feel that the subcommittee would like to hear whatever statement Sir Robert might have to make to this committee, knowing that he also has to catch a plane at noon.

We are pleased to invite you to take the chair and address the subcommittee, Sir Robert.

Sir ROBERT. Mr. Chairman, I consider it a very high honor and very exceptional privilege to be allowed to testify before this committee on some British experiences which appear to me to be closely related to the purpose of the bill which this House committee is considering.

The experience of the early stages of the war of 1914-18 led the British Government to the recognition that there were many, many

deficiencies in the provisions for adequate scientific knowledge for allocation in particular industries.

The Government in 1915 appointed a committee of the Privy Council on Scientific Research and to advise that Privy Council committee it appointed also an advisory council of distinguished leaders in science and in industry to advise on the directions which the serious deficiencies might best be made good.

In the following year, 1916, our Government department, the Department of Scientific and Industrial Research, was founded under direction of these two committees or councils. It was not concerned with medicine nor with agriculture and fisheries, because parallel organizations on a somewhat smaller scale were instituted for these separate subjects.

My own experience in the department and what I would like to say to the committee, sir, refers to science in its application to industry other than these very important subjects—agriculture, fisheries, and medicine.

The new department was given three major tasks: To institute specific research projects of value to industry, which should be confined to existing research organizations and predominant to the universities; it was invited to stabilize and assist the stability of new research institutions where these were deemed necessary; and it was given the third task of insuring that the supply of trained research workers to assist industry might be increased and improved by the grant of maintenance allowances and scholarships to promising recruits.

In all these things the department was instructed that it was to supplement and not to supplant the activities of existing agencies.

It founded or took over responsibility for four basic institutions: The National Physics Laboratory, already existing, which in great measure corresponds to your National Bureau of Standards; it founded the chemical research laboratory of corresponding scope; it became responsible for a geological survey dealing with general mineral resources; and a national coal survey dealing with national fuels.

It then turned its attentions to research toward meeting what one might call the primary needs of everyday existence—the needs of every human being for shelter, warmth, food, water, and transportation; and it founded research stations wholly financed from Government funds; wholly staffed by Government servants, to conduct fundamental research and short-term research in these connections.

In fact it founded the boating research station, a fuel research station, three stations concerned with the conservation of food, one dealing with low-temperature processes and another dealing specifically with fish preservation, one with fruit, and these were later supplemented by a fourth station for the study of pest infestation of stored products.

A station was set up to deal with the study of water pollution and an erosion research station dealing with one aspect of transportation.

But I feel, sir, that there is one thing that might particularly interest the committee and that is the cooperative research associations which were set up under the edict of the new department.

The department was given a substantial sum which was to be applied to giving financial support to research associations, which would have member firms, the firms that were already in a specific industry.

The finances would be drawn in the first instance almost equally from the subscriptions paid by these firms and by a corresponding nearly equal grant from Government funds.

But it was of the essence of the scheme that the associations once set up would be wholly autonomous. The degree of Government direction and policy and in programming was very small, indeed. The member firms appointed their own counsel and that counsel decided on the program of research to be carried out by the association; decided on the scale of its operations; and generally took full responsibility for the work of the association and retained the full proprietorship of the results which came from the researchers.

The associations were authorized to carry out confidential investigations for member firms against payment of costs by the firms, and they have done that within the limit that they are reluctant to do special work of that character if it would in any substantial measure interfere with the progress of the more general and more fundamental research for which they principally exist.

If, sir, I might put in a few figures indicating the financial scope of this work, I would try to say rather briefly, and not very accurately, the order of expenditure in the years around 1946 and 1947, the British Government expended approximately \$275,000,000 on research for military and civil purposes in a representative year in that period. Of that total \$35,000,000 were expended on civil research.

To these sums must be added about \$30,000,000 which were given by way of grants to scientific departments in university institutions.

These totals required by associations from Government funds are now reduced to \$3,500,000. British industry itself expended approximately \$30,000,000 on industrial research in that typical year and of that \$30,000,000, \$5,500,000 represented subscriptions to their research associations.

When we add smaller sources of income the research associations then had a total income of \$9,500,000.

Of the membership of these associations, taking only those firms in British industry which spent more than \$4,000 per annum on scientific research, 90 percent had themselves, within their firms, independent industrial research laboratories; three-quarters of these firms belonged to one research association; more than half of them belonged to more than a single association; two-thirds of them have expressed a desire for an expansion of the research association scheme.

The research associations provide scientific information service and advisory service, a relatively large measure of long-term fundamental research likely to benefit every member of the industry, but they are also instructed to pay attention to short-term projects likely to give quick improvements in industrial enterprises.

I will not burden the record with a complete list of the research associations, but I think that a list that sounds almost like an alphabet of industry may be of interest.

There exist research associations of this character in the boot and shoe industry, in coal utilization, cocoa and confectionery, coke, colliery, cotton, electricity, flour milling, food manufacturing, the gas industry, internal combustion engines, iron and steel, jute, laundry, leather, linen, automobile and allied subjects, nonferrous metals, paint, paper, pottery, printing, production engineering, rayon, refractories, rubber, scientific instruments, shipbuilding, welding, and woollens.

It might be suggested that these foundations were associated with a comparatively recent enthusiasm in some forces for nationalization of industry. I think it is desirable that I should tell the committee that 2 of these associations were founded in the year 1918, 8 of them in the year 1919, and 12 of those which still exist had begun their operations in or before 1920.

The member firms are clearly firms who are on the whole enthusiastic for private enterprise, and I would like to communicate to the committee the results of some inquiries made by my friend, Mr. Edwards, of the University of London, who has taken a very stringent survey of the present views of a large number of member firms in the research associations. He asked them four questions of this character: "Do you regard your subscription to a research association as a good investment?" And two-thirds of the firms to whom he put the question—and he did his best to assure a sound statistical coverage—two-thirds of these firms said emphatically, "Yes, the subscription is in itself an investment with a good return."

He said, "Do you remember, without searching the depths of your memory, a clear example of the way in which your own firm has benefited from the work of the association?" And again two-thirds of them said, "Yes, very clearly."

He said, "Do you wish the associations to expand their activities?" And again, something over 60 percent said, "Yes, we do."

In one instance the work of the association was financed by a levy on the turn-over of the industry, and his fourth question was, "Do you think it desirable that the research associations should be financed by a levy on the industry?" And again, 60 to 65 percent of the firms replying said, "No, we think that the present method of financing is much superior to a levy."

Perhaps I should end by saying, sir, that on top of the structure that I have outlined, we have now very recently in the United Kingdom added an advisory council on civil science, which advises the Lord President of the Council on the interrelation among all of the scientific bodies within government establishments and departments in the United Kingdom.

If, sir, I might finish by referring again to my conviction, I would like to state that this type of organization in the United Kingdom is popular not merely with the industrial user but is regarded as wise by all shades of political opinion. I would say the foundation of this great enterprise was laid by one of our greatest liberal statesmen, Lord Alden, and was carried immediately over from Lord Alden's care to that of one of our greatest conservative statesmen, Arthur J. Balfour, later Lord Balfour.

Finally, sir, if I might be allowed to state for the record that much of what I have tried to say, too briefly, is reviewed in two books of comparatively modest size, and I would ask to be allowed to read the titles and authors of these books for record purposes. One is entitled *Industrial Research and Development*, by Heath and Hetterington. Sir Frank Heath was the first civil-service head of the division and rendered a very great national service in that capacity. The second is a more recent book called *Cooperative Research in Industry*, by Dr. Douglas W. Hill.

I thank you, sir, for allowing me to express these statements, which I have tried to make as factual as possible.

Mr. PRIEST. Thank you, Sir Robert. We are indeed grateful to have you here as a visitor and as a witness before this committee.

I had just one question. I gathered from your statement that the emphasis in Britain rather largely is placed on applied research rather than basic research. Is that generally true?

Sir ROBERT. The emphasis within the department of scientific and industrial research, sir, was put in the first instance on an intermediate kind of research, not inquiring into the fundamental properties of matter, but in the details of these fundamental things which would be carried forward toward industrial processes. But I share, and I am sure that everyone concerned with research in Great Britain shares, the view that the frontier which we used to draw between pure research or basic research and applied or industrial research was always a very diffused frontier, and it is now almost invisible.

In my own subject, I should be quite unable to give a statement as to where radio research ceased to be academic, as it certainly was with Michael Faraday, Clark-Maxwell, and Hertz, and became industrial, as it certainly became with McKearney and his followers.

Mr. PRIEST. Your opinion in that respect seems to concur with that of the latest witness, Dr. Bronk, of Johns Hopkins. He thought the border line between the two was rather difficult to define.

Are there any other questions? I wonder if the chairman or the ranking member has any question?

Mr. CROSSER. I would like to ask the doctor whether or not he happens to be related to Isaac Watt.

Sir ROBERT. I have no scientific evidence on the subject, sir. I have negative evidence, which I hardly venture to put on the record in this august committee, that none of the financial benefits of James Watt's work have ever passed to my branch of the family, and so I assume that the connection, if any, is a very indirect one.

Mr. WOLVERTON. Mr. Chairman, you are to be commended in having brought before this committee two such outstanding witnesses as we have had the privilege of hearing this morning. The statement of Dr. Bronk was one of the most outstanding statements that has been made before this committee by any witness we have had before us at any time; and the statement by Sir Robert is likewise of an outstanding character, and it will aid this committee in its consideration of this important matter.

Mr. PRIEST. Sir Robert, we thank you, and we hope this sixteenth visit to this country since Pearl Harbor will be a pleasant one for you, sir.

Is Dr. Charles MacQuigg, of Ohio State University, in the room? Dr. MacQuigg was scheduled to testify today, and perhaps he has been somewhat delayed.

Is Dr. Bakhmeteff in the room? He was to be accompanied by a panel.

Were you supposed to testify?

Mr. Cox. I am Mr. Cox. I was notified 15 minutes before the hearing took place, and I would like to testify if the chairman would see fit, sir.

Mr. PRIEST. We will be very happy to have Mr. Cox testify. The chairman has been informed that a number of planes from the West and from the East have been delayed this morning, and that accounts for the delay of some of the witnesses who were scheduled to testify.

Mr. Cox, will you state your full name and your title for the record?

**STATEMENT OF JOHN T. COX, JR., REPRESENTING THE AMERICAN
INSTITUTE OF CHEMICAL ENGINEERS, WASHINGTON, D. C.**

Mr. Cox. I am Mr. John T. Cox, Jr. I represent the engineers' joint council on this committee. I am a member of the American Institute of Chemical Engineers. The committee is composed of five major engineering societies of the Nation. My address is Washington, D. C.

Mr. PRIEST. You may proceed with your statement, Mr. Cox.

Mr. Cox. I would like to say first that I was a member of the President's Scientific Research Board. However, at this time my views do not represent either the President's Scientific Research Board or the Reconstruction Finance Corporation, but the views of the engineering joint council.

As recommended by the Hoover Commission and also, for the sake of brevity, the Steelman report, the chief purposes of the National Science Foundation are (1) to examine continuously the total scientific effort of the Nation and (2) to recommend a national science policy based on these surveys and (3) to assess the proper role of the Federal Government in this effort and to coordinate Government research programs and (4) to support basic research and education in the sciences.

Representing a group of engineers in the United States is a fairly large job. Dr. Bronk pointed out that there are two kinds of research that we are looking at today: one is basic and one is applied. Engineers, for the greater part, are people who prosecute applied research. We are people who make dividends. We do not look askance on our brothers who plow the fields of basic research, because from those fields come the tools with which we implement the great discoveries which in turn implement the commerce and industry of this country.

We feel that any measures taken to advance the state of basic research in this country are fundamental to our cause. This is the so-called fertilizer for men's brains, the provision of moneys for the continuance of the exploratory section of our science effort.

We feel that it is fundamental, also, that methods be provided and means be provided for the education not only of young men who will go into the basic sciences but who will go into the applied sciences, and in particular who will go into our engineering profession.

During the past great conflict, I do not have to remind this committee that we were scratching the bottom of the scientific barrel for trained men. We estimated in the workings of the Steelman Committee that by 1955 we possibly might have enough men to carry out our sustained engineering and scientific effort.

We feel that the dissemination of moneys on a regional basis is a good thing. We think that our engineers and scientists possibly should come from all over the Nation, because, when regionalized, the regions themselves can benefit.

Finally, I would like to point out to the committee that, due to some peculiarity in the commerce, moneys are rather hard to obtain, and I speak practically because I am an engineer, for basic research from industry. That may be a startling indictment, but nevertheless it is true.

Basic research can become a matter of a great national resource, and we think that this bill will provide that.

That is all that I have, Mr. Chairman.

Mr. PRIEST. Are there any questions?

Mr. WILSON. What is your announced reason for the difficulty in obtaining from industry any funds for basic research? Why is that so?

Mr. Cox. I will have the temerity to say that they possibly do not understand what basic research is, and they cannot see any immediate economic gain from it.

Mr. WILSON. They consider it not a sound investment?

Mr. Cox. Well, they consider it an extremely long-range investment.

Mr. WILSON. You heard the previous witness testify about the British Empire considering it a sound investment.

Mr. Cox. On applied research, that is true. I was talking about basic research.

Mr. WILSON. I am referring to basic research with you.

Mr. Cox. Yes.

Mr. BIEMILLER. Pursuing the same line of thought, if I recall correctly, when some of us attended the Westinghouse science dinner for the students that were brought in here, Westinghouse insisted that it was doing a good deal of basic research. Is that an isolated illustration?

Mr. Cox. There are a few great companies in the United States who do pursue basic research and expend for it. They are farsighted and have the staff necessary for its prosecution. I would say that those companies are distinctly in the minority. The really great industrial organizations have a policy for amounts of money for basic research, but as a whole I do not think that you will find many American industries that will put in an awful lot of money on basic research.

Mr. BIEMILLER. It would be your contention that neither from the industry nor from foundations or universities are there sufficient funds available for basic research at the moment?

Mr. Cox. That is right.

Mr. PRIEST. Are there any further questions?

I was glad Mr. Biemiller brought up the question of Westinghouse. At the same dinner that he attended. I think all of us were convinced by some demonstrations that Westinghouse was doing some rather considerable amount of basic research.

Mr. Cox. That is correct.

Mr. PRIEST. Are there any further questions?

Thank you, Mr. Cox. Could you tell the committee whether there are other members of this panel present who wish to testify, or are you the only one?

Mr. Cox. I am not aware of any others.

Mr. PRIEST. There were some other names listed.

Are there any other members of this panel, which was to accompany Dr. Bakhmeteff, present?

Thank you so much, Mr. Cox.

Is Mr. Oliver Bowles in the room?

We will take a few minutes' recess until we can check up on some plane schedules. Our witnesses are late this morning.

(Short recess.)

Mr. PRIEST. The committee will come to order.

Without objection, the Chair would like to read a very brief recommendation made by the Hoover Commission, with reference to

Federal research, into the record at this time. Quoting from that report:

The Federal Government is now engaged in a wide range of research activities involving tremendous expenditures of funds. In 1947, total Federal expenditures for research excluding atomic energy amounted to \$625,000,000. This Commission, while recognizing that effective planning and coordination of research undertaken is of major importance, has not endeavored to make an independent study of organization for research in the Federal Government. This decision was based primarily on a realization that the main aspect of the problem had been recently investigated and reported by the President's Scientific Research Board. Nevertheless, the Commission does wish to call attention to the major issues in this field, pointing out progress which has already been achieved and further steps that should be taken.

The report of the Scientific Research Board makes it plain that a satisfactory correlated research program for the National Government has not yet been realized. To be effective, an organization which will facilitate the development of research policy for the Government as a whole must have roots in each department with major responsibilities. Every Federal agency with an extensive research program should have a staff organization reporting to the agency head for developing general research policy. A number of such staff groups are now in operation. These groups include the Agricultural Research Administration, the Office of Naval Research, the Office of Research Planning, and Public Health Service and Research and Development Division of the Department of the Army's General Staff.

While the authority, responsibility, and organizational status of these groups vary widely, they do have a number of common basic characteristics. Each is responsible to the agency head; each maintains records of research projects conducted by all units of the agency served; each advises the agency head on such matters of research policy as the fields of which research should be expanded or contracted and whether research should be undertaken directly by the Federal Government or by non-Federal agencies under a grant of contract, and similar matters.

Effort along these lines within individual agencies is not enough. There is need for an organization to facilitate the development of research policy for the Federal Government as a whole. That was recognized in a report of the President's Scientific Research Board. That Board recommended as a first step the establishment of an interdepartmental committee on scientific research and development. Such a committee was created by Executive order in December of 1947. It was directed to further the most effective administration of scientific research and development activities in the Federal Government and was authorized to submit recommendations on research policy and administration direct to the President.

The full potentialities of this committee have been realized, since its members have not as yet attacked major problems of research policy for the Federal Government as a whole. This may be due in part to lack of staff and funds. An interdepartmental committee working alone and without staff is seriously limited in achieving adequate coordination and developing over-all plans to completion. This points to the need for a National Science Foundation. The major functions of such a Foundation should be (a) to examine the total scientific research efforts of the Nation, to assess the proper role of the Federal Government in this effort, to evaluate the division of research effort among the scientific disciplines and among fields of applied research, and to evaluate the key factors that impede the development of an effective national research effort. Based upon its investigation, it should advise the President as to the measures necessary to establish a sound scientific research program for the Nation.

In addition, the Foundation should be given appropriations for the support of basic research and for research fellowships in fields not adequately covered by the research grants and fellowships of other Federal Government agencies. The Foundation might administer the grant and fellowship program for which it has received funds, or delegate administration to other Federal agencies.

In addition, it should advise the President as to the proper balance among research grants and fellowship programs supported by appropriations given to other Federal agencies, and as to major policies that should govern the administration of these programs.

The National Science Foundation should consider most carefully the manner in which the national policies with respect to scientific research are related to

broader questions of educational policy. At present, grants for research purposes are being made on a hit-and-miss basis, making the award of research grants in effect a new form of patronage. The awarding of research grants must be put on a more systematic basis, with due recognition given to their impact on the educational programs of our higher institutions of learning.

That is from the Hoover Commission report.

The House meets at noon today, and there is legislation coming before the House in which there will be considerable interest.

Mr. Teeter was listed as a witness for tomorrow, and since we have had this interruption we can proceed for 15 minutes, and the committee will adjourn at a quarter of 12.

We all know Mr. Teeter, but will you give your full name and title for the record, please?

**STATEMENT OF JOHN H. TEETER, REPRESENTING THE AMERICAN
CANCER SOCIETY, WASHINGTON, D. C.**

MR. TEETER. Mr. Chairman, my name is John H. Teeter. I am secretary of the research committee of the American Cancer Society, which is an administrative task, governing the research program in cancer as financed by the American Cancer Society. I also serve in that capacity for the Damon Runyan Memorial Fund, sponsored by Walter Winchell, and I serve in the same capacity for the Babe Ruth Foundation.

I sit with the Committee on Growth of the National Research Council, of the National Academy of Sciences and have the pleasure of sitting with the National Advisory Cancer Council, which serves the National Cancer Institute.

I do not wish to frighten the committee with the volume of papers you see before me, but I want to point out to the members of the committee that I came here in June of 1945 at Dr. Bush's suggestion, to try to assist some phases of the National Science Foundation. This is as dear to me as any work that I could consider.

I have here the bills, the individual bills that occurred since that time. I certainly do not think that they need to be in the committee's portfolio, but I just want to point out the volume of them.

All of this stemmed from just one little publication, "Science, the Endless Frontier." I recall that Dr. Bush, at the request of the President, and his group assembled this work I had the pleasure of helping somewhat. It took them about 5 months and approximately 50 men employed, but I do not think that they spent more than \$5,000 in this task, because it was done under the system which places honor above salary. But it has been the bible from which the whole idea sprang.

The President's Research Board report, followed this of which there are four volumes; and which, incidentally, gentlemen, cost \$100,000 and took about 18 months to prepare. It is an interesting comparison of the way one might approach a task of this nature.

I would like to also present, just to have you see the volume of it, the hearings that have been held in the House and in the Senate. Here are approximately 1,500 pages and approximately 130 witnesses, which I don't think, gentlemen, you could assemble on a salary basis at any time. It is a great assembly of people. You heard this morning Sir Robert Watson-Watt, who I had the great fortune to ride

in the plane with on Tuesday evening and suggest that perhaps he come down and give you the benefit of his thought on research.

I think the interesting point there which we, as Americans, should get, is the way that they take ideas developed in basic and applied research and get it right over into industry, and quick.

The British research program follows a system which, in spite of our great ingenuity and applied research in this country, we might well follow, as a pattern to get our basic ideas into production at as early a date as possible.

I will dispense with the volume of previous data very quickly and point out also that the reports accompanying these bills were equally voluminous. I would say to you gentlemen that I think the subject has been very well and thoroughly covered. I would say to you also that the bills, as between the House and the Senate, the four identical bills in this body, the two bills corresponding to the Senate bill and the one old bill, represent a very good cross-section of the thinking on this subject. I do not believe that the differences between the House bill and the Senate bill—247 in the Senate and 12, 185 and 311 and 2751—are sufficiently different that they are serious. I think that that matter can easily be adjusted in conference. They so completely cover the subject. Having worked on both sides, the Senate and the House, and with both chairmen, I believe that the language of the House bill has been subject to more careful refinement and thinking than the Senate version.

Now, I say that, gentlemen, completely without feeling one way or the other, but it is my honest belief, in watching all of these bills come into being. I believe the language and the care with which the House bill was reviewed is a creditable legislative procedure.

MR. PRIEST. Thank you.

MR. TEETER. I would like to say also that I do not think that there are any serious differences existing in the scientific fraternity, the engineering fraternity, in the medical fraternity, in this matter.

I would also suggest, however, that care should be taken in exercising the freedom of this new institution so that they are not directed to undertake their research through a Government agency. I believe that the process of thinking should be that once the Foundation is set up and you get down to the point of the division, say, in medical sciences, and physical sciences and chemical sciences, that that particular division meeting with its assembled experts, composed of men of industry and science and men of the Government agencies in that field, of their own free will and thinking they should decide where that work should be done. If that work can better be done in the Government institutions, that is fine. If it can better be done in a university, throughout the country, that is fine. But let us arrive at that decision by a free method of thinking and not by any mandatory legislation.

I do not think that I should burden the committee further, because there are far better witnesses who will come after me. I can only speak as to my sincerity on this legislation, and my firm belief that this is just as important now as it was in 1945, even more so.

I refer to the brief luncheon we had the other day when Dr. Bush pointed out the necessity of increasing the number of biologists in this country. As we needed radar men—the man who sat here before I did, Sir Watson-Watt, was the father of radar, and he pushed us

along in that campaign and carried that frontier for us. Now, by the same token, we need a biologist, and a great leader. We need every biologist we can get, not now or next week, but as soon as we can get them. The Science Foundation is very important for that.

I would like, if I may, to enter for the record a recent editorial from the New York Times on the Science Foundation.

(The editorial is as follows:)

[New York Times editorial, March 22, 1949]

THE SCIENCE FOUNDATION

The last frontier melted away in the nineties, but the frontier of science remains a vague intellectual region that recedes ever farther and ever widens as physicists, chemists, and biologists make new discoveries. Even while we were in the national defense stage bills had been introduced that called for the creation of a Government-supported foundation to carry on research on a scale that no single industry could match. The spirit of science was so much in the air by the time war was declared that the Office of Scientific Research and Development was established under the direction of Dr. Vannevar Bush. The success of the Office is now a matter of history. Because of it only a few voices have been raised against the creation of a National Science Foundation which would carry on the work of the Office with an eye for the needs of peace as well as of war.

In 1947 Congress, after long debate, passed a bill which had the approval of the scientists because it gave them complete control over the proposed Foundation. Science does not stand apart in a democracy. It is entitled to no more privileges and rights than are commerce, the law, or economics. Besides, the record of Government science answerable to Congress or the President is creditable, so that the fear of political pressure on the managers of a Science Foundation had not much justification. The President vetoed the bill reluctantly.

The bill which has now been adopted by the House and which has an excellent chance of Senate approval is free from the more serious defects of the older measure. Under this bill the social sciences are not to be pursued. Dr. Vannevar Bush and his group, who played a conspicuous part in drafting all the Science Foundation bills that have been discussed since 1944, seem to feel that research in the social sciences spells political trouble. It does. We have an example in the controversy that has raged for years over compulsory health insurance. But even with the social sciences omitted the National Science Foundation bill in its present form deserves Presidential approval. Much more than research is provided for. Promising students are to receive free scholarships to assure a supply of research scientists. Fundamental science is to be cultivated. There is to be wide dissemination of the fruits of research, except where secrecy is expedient for military reasons. We need such a Foundation because the continued prosperity of the country is partly dependent on the exploitation of fundamental discoveries and partly because in the present temper of the world we cannot afford to let science shift for itself, as we did after the First World War.

Mr. TEETER. I would like to say to you that we in the medical fields, cancer and heart and others, are badly in need of the National Science Foundation, particularly to supply what we might call venture capital; that is, the risk capital as understood in an investment program. You have 100 percent of your money to be invested, and perhaps a part of it is reserved as cash and part of it is in stocks and part of it is in bonds, but if you are a successful investor you will take 5 or 10 percent of your money and put it on venture capital, the long bet. Perhaps it is a mine and perhaps it is an invention. By the same token, the National Science Foundation or some agency should take a certain small part of its money, maybe 5 percent, and put it into scientific and medical ventures. Venture capital is the risk, the invention, the idea or the concept, or perhaps the belief that somebody has that

they have a new approach in a new area that has not previously been tried.

I should like to pass around to the committee at this time such a development which occurred when the Polaroid Co. of Cambridge, Mass., attempted to build a microscope that would view a cell, using ultraviolet techniques. These are techniques, gentlemen, which allow you to look into the inside of a cancer cell and see, in color definition, the chemical constituency of that cell. That development will cost approximately \$200,000, financed by the Navy and American Cancer Society, and should be ready in instrument form in about 6 to 8 months, at a cost of \$6,000. It will be the greatest development that we have had since the microscope itself.

This is just one example of what the Science Foundation and agencies of this type could create.

Gentlemen, I have taken enough of your time.

Mr. PRIEST. The Chair wishes to express a very deep personal appreciation for the continued service of Mr. Teeter in connection with this legislation. It was my privilege to be with him, Dr. Vannevar Bush, Senator Magnuson, and Mr. Mills in a meeting in 1945 at Dr. Bush's apartment, when plans were made to draw up the first bills on national science legislation; and from that moment on, he has continued his interest and his help to this committee.

Are there any questions?

Mr. WOLVERTON. I would like to add, if I may, Mr. Chairman, my personal appreciation of the assistance that has at all times been readily available from Mr. Teeter to those of us who have been interested in this subject over a period of years. It has always been a helpful and intelligent service that he has rendered, with only one thought in mind, of accomplishing that which we all deem necessary for the welfare of our Government.

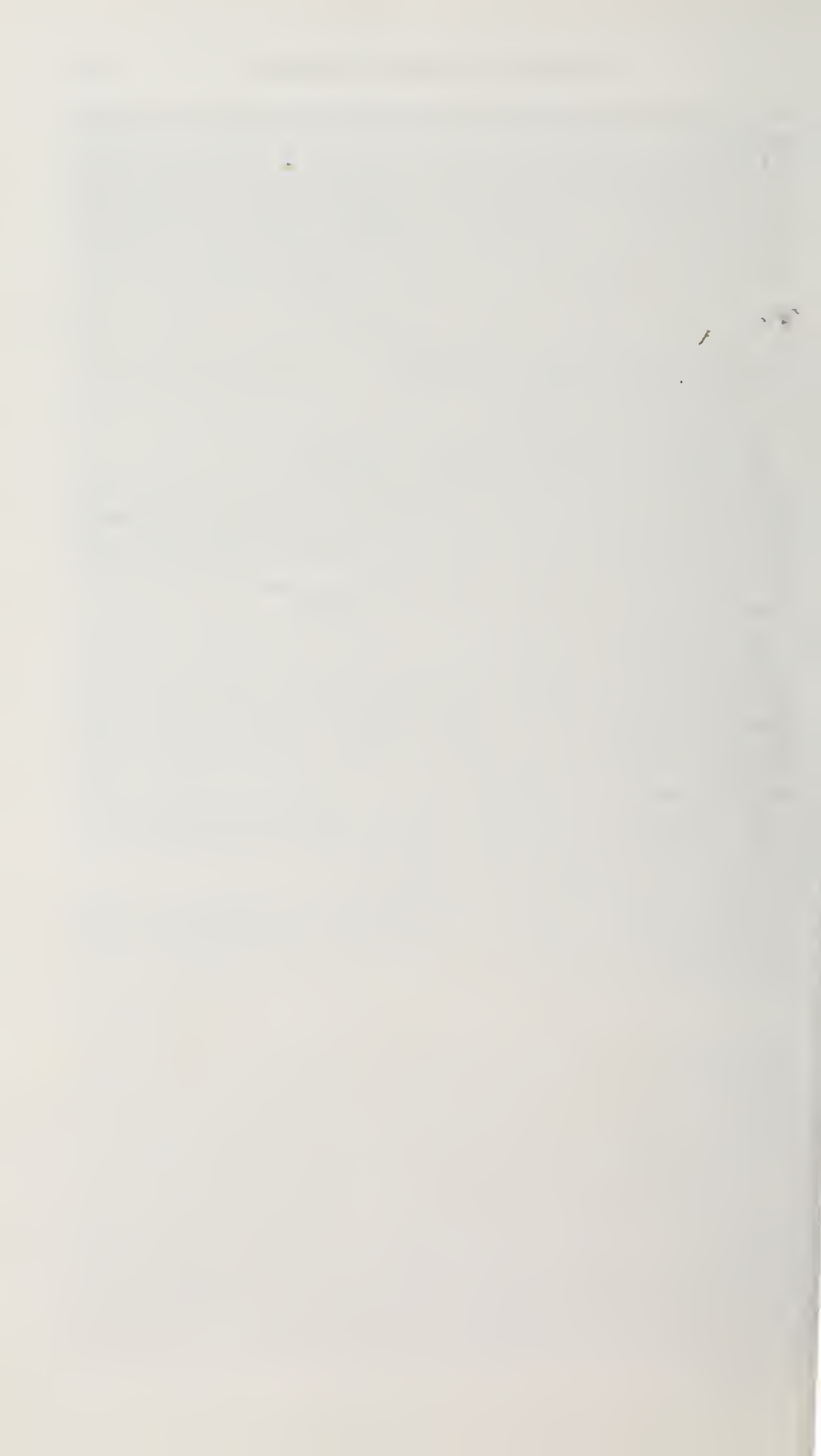
Mr. O'HARA. I would like to join in what Mr. Priest and Mr. Wolverton have said with reference to Mr. Teeter's cooperation.

Mr. PRIEST. Are there any other questions?

If not, we thank you, Mr. Teeter, again.

The committee stands adjourned until 10 o'clock tomorrow morning.

(Thereupon, at 11:45 a. m., the hearing was adjourned until 10 a. m. Friday, April 1, 1949.)



NATIONAL SCIENCE FOUNDATION

FRIDAY, APRIL 1, 1949

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE OF THE COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met at 10 a. m., in room 1334, New House Office Building, Hon. J. Percy Priest (chairman of the subcommittee) presiding.

Mr. PRIEST. The subcommittee will come to order.

We will continue hearings on the National Science Foundation legislation. The first witness will be Mr. George E. Folk.

Mr. Folk, will you state your full name and your title for the record?

STATEMENT OF GEORGE E. FOLK, ADVISER TO THE COMMITTEE ON PATENTS AND RESEARCH OF THE NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. FOLK. Mr. Chairman, my name is George E. Folk. I am adviser to the committee on patents and research of the National Association of Manufacturers and I appear here on behalf of that association, favoring a National Science Foundation bill.

The bills we have before us are divisible into three groups. The first group are the bills H. R. 12, H. R. 185, H. R. 311, and H. R. 2751. These bills are the same as the original House bill of the Eightieth Congress, H. R. 6007, referred to as a compromise bill, introduced in the Senate as S. 2385.

It is this group of bills which more nearly meets the views of the National Association of Manufacturers.

The second group of bills are H. R. 1845 and H. R. 2308. They are the same as the bill, S. 247, recently passed by the Senate. This was a so-called compromise bill, but I think when we look at it we will find out the compromise features of it were eliminated, and for that reason, the National Association of Manufacturers is opposed to certain provisions of that bill.

The third group is the bill H. R. 359, which is the same as S. 525 of the first session of the Eightieth Congress.

- There has from the beginning been a number of controversial points which have been raised. One of them was, of course, the scope of the Foundation itself. That, I believe, has been taken care of satisfactorily, certainly in the groups 1 and 2, and so it is unnecessary to refer to that.

The second controversial point is with reference to the method of appointing a Director of the Foundation, and the third controversial point is the powers and duties to be exercised by that Director.

You will find that the provision in groups 1 and 2, originally found in the bill introduced as 2385, before it was amended, are very similar and while there are a number of changes made, as it is now in 247, most of those changes are certainly not objectionable and we will refer, therefore, only to those ones to which we wish to call particular attention.

You will not that section 5 of this group 1 bill, corresponding to the original S. 2385 of the Eightieth Congress before it was amended, had a section 5 which is eliminated from the present S. 247.

Well, that elimination in itself does not amount to a great deal, except when read in connection with other sections—section 6 of the group 1 bill or section 5 of the group 2 bills.

Now, to review a little of the history of these bills very briefly. When the Eightieth Congress in 1947 passed the bill, which died as a result of the pocket veto by the President, the House committee in reporting out that bill made this statement which I think will explain some of the controversies that have arisen. I quote from that statement in which it is said that the bill provided for the Director being appointed by the Foundation. The reason given by the committee's report is as follows:

In order that the Foundation will have a free hand to select a Director whom it deems to be competent, and to replace such Director at any time as such action seems desirable.

Now, the President in his memorandum after he had allowed the bill to die as a result of pocket veto, stated that he being the Chief Executive of the Government should be perfectly free to appoint the Director. We can sympathize with that position of the President, but on the contrary, the Foundation in order to function successfully must have a Director who is satisfactory to the Foundation, otherwise it is perfectly obvious that things will not run smoothly.

Now, at the time that compromise bill was introduced in the second session of the Eightieth Congress, a statement was made in connection with its introduction to the effect, and I will read that:

Early in the second session of the Eightieth Congress, a series of conferences designed to reconcile the divergent views of the executive and legislative branches of the Government (as reflected in the President's memo of disapproval and S. 526, respectively) was conducted by a number of Congress and administration representatives. As a result of these conferences and in the light of the most recent development in this important field, a new National Science Foundation bill, S. 2385, was introduced in the Senate on March 25, 1948.

That compromise bill is the same as the group 1 bills I referred to, beginning with H. R. 12 of this Congress. That bill was passed by the Senate in the Eightieth Congress, but no action was taken by the House of Representatives on the corresponding bill.

Now, one might get the inference that this S. 247 is a compromise bill. Such is not the fact, it seems to me. It was as originally introduced a compromise bill.

The report of the Senate committee on S. 247 is, I think, misleading. I quote from it as follows:

The pending proposal, S. 247, is identical with S. 2385, as approved by the Senate in the Eightieth Congress, and it represents the culmination of the year's study and experience outlined above.

This does not bring out the fact that before it was approved by the Senate of the Eightieth Congress, some very important changes

were made which, as I said, decompromised it and restores it right back into the controversial field to which I think there is a great deal of objection, and I do not think the National Association of Manufacturers is the only one that has objections to it.

My impression is that the scientists and the educators in this country feel the same way about this matter.

Now then, let us look and see in what way that original compromise bill was changed. As I said, section 5 was stricken out and that caused a renumbering of the sections after that, so that the original section 6 of 2385 now becomes section 5, and it is this section that I want to call special attention to.

This section 5 of the group 2 bills departs from the compromise features, that the President should appoint the Director "after receiving recommendations from the Foundation."

Now, in lieu of that phrase the group 2 bills in S. 247 merely provides for the appointment of a Director "after the members of the Foundation have been appointed and qualified."

Even the compromise bill might have been objected to, because it still left, as it probably should, the President with a free hand to appoint whom he pleases; but at least it would have a salutary effect of having the recommendations from the Foundation, which was to carry out the operation of the act, of the Foundation.

So we see here is quite an important change. It makes little difference, it seems, whether the Director is appointed before or after the Foundation is established, unless the President, or unless it is expected the President, will consult with the Foundation with regard to a suitable Director who will be acceptable to that Foundation.

That is the first point.

Now, there are other very significant omissions from this compromise bill. I read that paragraph (b) of section 6 of the group 1 bills, which reads as follows and which is omitted from the groups 2 bills as well as S. 247:

The Director shall, in accordance with such directives as the Executive Committee shall from time to time prescribe, exercise the powers set forth in this Act within the policies developed by the Foundation: *Provided*, That the authority granted to the Foundation by paragraph (c) of section 11 shall be exercised by the Director with the approval of the Executive Committee.

That proviso clause is something that I am going to deal with separately.

But you will note the express direction that the Director shall act in accordance with the directives of the Executive Committee, or we might say with the Foundation, are left out.

That is an important omission, because on the face of it it seems to give a free hand to the Director, and what we are afraid of is, in effect, the Foundation will become a one-man Foundation.

You will note that whereas in striking out section 5, they struck out the Executive Committee being mandatory and made it merely permissive. Since there might not be an Executive Committee at all, throughout the bills where the expression "Executive Committee" was used, the bill substitutes "Foundation."

Now, it is significant that this paragraph that is stricken out does not provide any control over the Director. If it said the Director shall, in accordance with such directives as the Foundation shall from time to time prescribe, there would be no objection to the change.

Now, it is further significant that in the group 3 bills, section 11 thereof comes out frankly and practically makes the Director sole arbiter as to what he should do and puts the Foundation merely in an advisory capacity.

That is one of the principal reasons why we object to the group 3 bills.

There is another section that is very controversial. I understand you have received a number of letters objecting to paragraph (e) of section 11 of the group 1 bills, which corresponds exactly to paragraph (e) of section 10 of the group 2 bills, and this same paragraph is found in the group 3 bills.

I think that the intentions were good, but the language is not satisfactory. I have tried to suggest a revision of section 11 that I think, and hope, will meet the views of everyone concerned with this legislation.

In that section 11 of the group 1 bills and (section 10 of the group 2 bills, identical in this respect) it is provided that—

The Foundation is empowered to do all things necessary to carry out the provisions of this Act, and without being limited thereby. The Foundation is specifically authorized—

and then we go to paragraph (e) of that authorization which reads as follows:

to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, scientific research.

That seems to cover everything. It does not say, necessary to carry out the duties and objects of the Foundation. It is much broader than that. It includes anything resulting from scientific research, and is not even limited to basic scientific research. It might be any research. It is broad enough to include everything.

And, as I said, the bill apparently leaves it to the Director to exercise those duties without any check-up on the part of the Foundation, because the section (b) of paragraph 6 was eliminated, where the Director could act only with the approval of the Executive Committee.

Now, one of the objections to paragraph (e) is that "real and personal property of all kinds" would, of course, include patents, because it has been well determined that patents are species of property.

But, it goes further than that. It is too broad even if it specifically left patents out.

In the first place we do not need any provision by which the Government shall acquire patents, because the act of 1910 as amended in 1918 expressly provides where there is manufactured for or by the Government, without the license of the patent owner, that the patent owner has his redress in the Court of Claims. In other words provision is made by which the Government exercises its right of eminent domain and by which the patent owner can acquire his just compensation.

So, the Government does not need any further provision with respect to the acquisition of patents. Besides, all the Government could possibly need is nonexclusive licenses, because certainly they do not want to exclude their own citizens from utilizing these inventions. Besides, the danger of a suit against the Government for the use in the basic research field is so remote that it is negligible.

So, I think there is quite a little reason for concern over the fact that this would in language, at least authorize the Foundation or the Director to arbitrarily acquire such property rights as he might deem necessary, without limitation. They expressly so state without limitation.

I have tried to draft a substitute for this paragraph (e) which I hope will be satisfactory. I would suggest that paragraph (e) be rewritten as follows—this is one way—no doubt some other way is equally as good—to read:

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for carrying out the provisions of this Act.

Now, is not that all they want, the power to do what is necessary to carry out the provisions of the act? I think that will overcome all of the objections that have been urged against it. It will overcome objections of the National Association of Manufacturers, the objections which they have made to this paragraph (e) of the bill.

I do not want to take up your time further, but on June 1, 1948, when hearings were held we went into the group 3 bills very fully, I do not believe it is necessary to refer to them at the present. Thank you, very much.

Mr. PRIEST. We thank you, Mr. Folk. Are there any questions?

Mr. O'HARA. Mr. Chairman?

Mr. PRIEST. Mr. O'Hara.

Mr. O'HARA. I am just wondering if the last part of your language, your suggested amendment to section (e), does leave pretty much the same concern to me that you expressed as to the original language?

Mr. FOLK. No; the original says "necessary or resulting from," and as I said it would cut out the patent provisions of it, because it is not necessary at all.

Mr. O'HARA. Should that power be in the Director or be in the Foundation?

Mr. FOLK. We said we favored group 1 bills, which leaves it in the Foundation. The group 2 bills leaves it more or less up in the air. And, I think it was intended to leave it to the Director.

Group 3 bills specifically state that the Director shall exercise that power. Those are the three different variations.

Mr. O'HARA. I take it you are generally familiar with the viewpoint of the patent lawyers with reference to this bill?

Mr. FOLK. Well, since I was one of the first ones objecting to that patent ground, I think I am familiar with it. I also have received a number of communications and no doubt you have received them from those objecting to that section of the bill. I think I am thoroughly familiar with it.

Mr. O'HARA. Does your suggested amendment—

Mr. FOLK (interposing). My suggested amendment, I hope, takes care of that—those objections. It certainly does, so far as the NAM is concerned. Does that answer your question?

Mr. O'HARA. In other words, the results of the work of this Foundation would be for the benefit of the Government; is that correct?

Mr. FOLK. It would not be necessary for the Government to take any action on patents at all in view of the act of 1910 and the act of 1918. They already have all that is necessary to carry out the functions

of this Foundation, and that is the reason why the word "necessary" would be satisfactory to me.

Mr. O'HARA. Well, what I have been concerned about is that we encourage the genius in science and the genius of the inventor, rather than in any way discourage them.

Now, my question in this regard goes to whether existing law or the effect of this bill on inventive genius—is good or bad. What have you to comment as to that?

Mr. FOLK. This bill has a section dealing particularly with patents.

Mr. O'HARA. I realize that.

Mr. FOLK. It has been a controversial section, but it in effect, says, when inventions are made, sponsored by the Foundation, the patent rights shall be divided equitably both to the public and to the inventor, so that the special section on patents takes care of that.

I have only introduced this discussion of (e), because it apparently does something more than affect the patent section.

Mr. O'HARA. Now, you have probably made it clear, but it is not clear to me. Is it your recommendation that the Director should be selected by the Foundation, or the appointment made by the President?

Mr. FOLK. That was the original idea and it was the one worked out by the House committee of 1947, and the bill was passed by both Houses. That is, that the Director should be appointed by the Foundation.

I think that that would be more desirable from the Foundation's standpoint, because they certainly want a Director acceptable to them, since the Foundation itself only meets possibly once a year and the Executive Committee would not be in continuous session, and it is desirable to have a Director in whom they have the utmost confidence, as well as desirable to have a Director in whom the President has confidence. For that reason we do not disapprove the original S. 2385, or the first group of bills, which provided that the President shall appoint the Director, after receiving recommendations from the Foundation.

I will say with reference to that—I am glad that you mentioned it because in the appointment of the Foundation itself there is a provision with reference to how they shall be appointed—it seems to me, if it is all right there, it might be all right in the appointment of the Director.

Mr. O'HARA. Which bill are you reading from now?

Mr. FOLK. I am reading from section 3 of the group-1 and group-2 bills, with reference to the appointment of the Foundation itself, not the Director.

In making the appointment it states in section 3, about lines 10 and 11 of the bill:

The President is requested, in making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, Association of Land-Grant Colleges and Universities, the National Association of State Universities, Association of American Colleges, or by other scientific or educational organizations.

That certainly would have a salutary effect.

Now, if there is reason for doing that with reference to the appointment of the Foundation members, is it not equally true that that should be carried out in the appointment of the Director? In other words, we wish to emphasize the fact that it is absolutely essential that there

be no discord between the Foundation and the Director who is to carry out the provisions of this bill.

Mr. O'HARA. I think that is perfectly sound.

Mr. FOLK. I hope I have made myself clear. It is quite a complicated situation. That is all I have.

Mr. WILSON. Mr. Chairman.

Mr. PRIEST. Mr. Wilson.

Mr. WILSON. I would like to ask you again about the reasons for your objection to 11 (e) under H. R. 12? That is worded "or resulting from scientific research."

Mr. FOLK. Well, "resulting from" certainly makes it extremely broad, because practically everything in the world results from research work. It does not say basic research even. It would give them authority to take over any developments that any corporation might make or any individual might make as a result of research work which is far beyond the scope of this bill, and I think it should be limited, so far as necessary to carry out the provisions of this act, and that the powers of the Foundation and the director both should be limited, as the bill elsewhere expressly limits them.

Mr. WILSON. You say in your prepared statement that the association is in favor of such Foundation as long as the lines set out in the pamphlet entitled, "Science: the Endless Frontier" are followed?

Mr. FOLK. Yes; that is true. That has been our consistent position from the very first.

Mr. WILSON. And the patent provisions set out on page 31 of that pamphlet?

Mr. FOLK. That is all right; the patent section is perfectly all right.

Mr. WILSON. That is the way you feel about it, the way it is set out in that pamphlet?

Mr. FOLK. I do not like the patent section of the group-3 bills.

Mr. PRIEST. Will the gentleman yield while we are on that subject?

Mr. WILSON. Yes.

Mr. PRIEST. I want to ask Mr. Folk specifically if he approves the section 12 in the group-1 bills, which deals with the patent question?

Mr. FOLK. Of the group-1 bills?

Mr. PRIEST. Of the group-1 bills.

Mr. FOLK. Absolutely, yes; we have no objection to that. I would say that a number of changes have been made in S. 247 from the original 2385, different from the others. We have not objected to these other provisions. I covered that here, but skipped it to save time.

Mr. PRIEST. Are there any further questions, Mr. Wilson?

Mr. WILSON. That was the question that I was driving at as to section 12 in H. R. 12 on patent rights.

Mr. FOLK. Yes.

Mr. WILSON. Your position is that that is agreeable?

Mr. FOLK. Our position is that the group-1 bills are all right; the group-2 bills have the same provision. That is the compromise that was acceptable to us.

Mr. BENNETT. Mr. Chairman?

Mr. PRIEST. Mr. Bennett.

Mr. BENNETT. Mr. Folk, under section 12, no employee can obtain any rights under a patent on the basis of information he gets while he is an employee, as I read the section.

Is there anything to prevent an employee or an officer of the Foundation from severing his connection from the Foundation and then applying for a patent, based upon the information which he obtained while he was an employee or an officer of the Foundation?

Mr. FOLK. That is a very difficult matter to determine, whether he got the information which subsequently enabled him to make the invention or whether he made the invention during the time he was working for the Foundation. If he were employed by the Foundation, under the law, he is paid for doing the thing, and that would belong to the people that he was working for.

Mr. BENNETT. That is right.

Mr. FOLK. That is all right. The other I admit is a very difficult question and that patent provision is left more or less to the equities of the situation, as I should say, and we have not objected to it.

Mr. BENNETT. Under this bill, I refer to H. R. 12, under section 12 of that bill, is there anything to prevent an employee or an officer from getting a patent on the basis of information that he obtained while he was an employee of the Foundation, as long as he is no longer employed? That is the way I read it. Is that the way you read it?

Mr. FOLK. Yes; I think it is read that way, and I do not know. We have the same thing that has come up recently in the District of Columbia with reference to an employee of the Patent Office who made an invention in the line of work he was doing in the office, and the court had to interpret what his rights were, recently.

Mr. BENNETT. If an officer or employee wanted to be a little bit dishonest, the Government or the Foundation would have absolutely no protection?

Mr. FOLK. I should say that, if it could be shown definitely that he did get that information by reason of or as a result of being an employee of the Government, the Government would have a nonexclusive license. It would have what is commonly referred to as shop rights.

Mr. BENNETT. That is pretty difficult to show; is it not?

Mr. FOLK. I do not know. We have not objected to this paragraph. It is the same in both groups of bills, and after threshing it out thoroughly we decided to leave it just as it was.

Mr. BENNETT. That is all.

Mr. PRIEST. We appreciate your statement, Mr. Folk.

You have always brought some good thoughts to this committee when you appeared.

Mr. FOLK. Thank you, Mr. Chairman. I should have offered my statement for the record. I assumed that the statement when filed would go in the record.

Mr. PRIEST. Without objection, the prepared statement will go in the record, if you desire it.

Mr. FOLK. Thank you.

(The statement referred to is as follows:)

TESTIMONY ON THE ESTABLISHMENT OF A NATIONAL SCIENCE FOUNDATION BY GEORGE E. FOLK, ADVISER TO THE COMMITTEE ON PATENTS AND RESEARCH OF THE NATIONAL ASSOCIATION OF MANUFACTURERS

Mr. Chairman and members of the committee, my name is George E. Folk. I am adviser to the Committee on Patents and Research of the National Association of Manufacturers, and I am speaking today for that association, a voluntary organization of more than 16,000 manufacturers, 70 percent of whose members have less than 500 employees each.

NAM APPROVES OF CREATION OF A NATIONAL SCIENCE FOUNDATION

As has been testified by representatives of the NAM upon previous appearances in connection with proposals for the establishment of a National Science Foundation, the NAM favors the creation of such a foundation to procure the full development of this country's scientific and technical resources along the lines recommended by Dr. Vannevar Bush, Director of the Office of Scientific Research and Development, in his report entitled "Science: the Endless Frontier."

The NAM recognizes that the Government has a proper role in the development of basic research. It believes that both the security and prosperity of our country depends today, as never before, upon the rapid extension of scientific knowledge. It also believes that, in the interest of science, there should be close cooperation between the teaching institutions of our country, the Federal Government, and industry. The NAM is fully appreciative of the fact that the Government has a natural and proper interest in the welfare of its citizens and, therefore, has a natural interest in insuring that adequate research be carried on in this country in such fields as national defense, public health and safety, and conservation of natural resources. While as much of such research as possible should be left to the province of private enterprise to be carried on with private funds, there are situations where, because of the complete lack of profitable probable uses of the results in the foreseeable future, private industry cannot, without financial assistance, adequately pursue the particular research activity deemed to be essential. In such instances, public funds properly could be utilized; but, as there is a limit to the amount of money that can or should be taken from the individual taxpayer, the Government has a high responsibility to insure that research projects sponsored by Government funds should be carefully selected and expended by it for the advancement of science in the most efficient manner possible. In this connection, it is essential in order to effectively conserve the taxpayers' money that the Federal Government avoid the duplication of services rendered by private industry, agencies supported by private funds, and non-Federal Government institutions.

The NAM has taken the position that the functions of the National Science Foundation should, as far as possible, be removed from politics. This position also has been taken overwhelmingly by prominent scientists and educators.

PREVIOUS SCIENCE FOUNDATION BILLS

After extensive hearings, Congress in 1947 passed a Science Foundation bill, which failed to become a law by reason of the President's pocket veto. The President stated that he was in favor of a National Science Foundation, but he could not approve that particular bill. The bill so vetoed had been in general favored by the National Association of Manufacturers.

To quote from the Senate committee report accompanying its recommendation for the enactment of S. 247, it stated: "Early in the second session of the Eightieth Congress, a series of conferences designed to reconcile the divergent views of the executive and legislative branches of the Government (as reflected in the President's memo of disapproval and S. 526, respectively) was conducted by a number of Congress and administration representatives. As a result of these conferences and in the light of the most recent development in this important field, a new National Science Foundation bill (S. 2385) was introduced in the Senate on March 25, 1948."

The NAM, while not looking upon this compromise bill with as much favor as it did upon the bill previously passed by both Houses of the Congress, still regarded it as a compromise bill which was probably the best that could be obtained, and, therefore, gave support to it. This testimony is found in connection with the hearings on H. R. 6007 (Wolverton) and S. 2385 (Smith) on June 1, 1948.

The bills now before this committee for consideration may be divided into three groups as follows:

H. R. 12, H. R. 185, H. R. 311, H. R. 2751, which are the same as the original S. 2385 and H. R. 6007 (referred to hereinafter as group 1);

H. R. 1845 and H. R. 2308 are the same as S. 247, recently passed by the Senate (hereinafter referred to as group 2);

H. R. 395 is the same as S. 525 of the Eightieth Congress.

Since the above referred to testimony given on behalf of the NAM on June 1, 1948, discusses in detail these various bills, a repetition thereof is deemed unnecessary and the present testimony will be confined to certain features of the above-mentioned groups 1 and 2.

To quote further from the committee report on S. 247, it is stated: "The pending proposal, S. 247, is identical with S. 2385, as approved by the Senate in the Eightieth Congress, and it represents the culmination of the years of study and experience outlined above." The committee report fails to state that very important changes were made in the original S. 2385, which, in effect, restored the particularly objectionable features which the NAM and scientists and educators in general had vigorously opposed.

IMPORTANT CHANGES MADE IN GROUP 3 BILLS

While generally speaking, S. 247 and the companion group 2 bills are in many respects identical with the original S. 2385 of the Eightieth Congress and with the bills of group 1, said group 2 bills make important and fundamental changes in sections 5 and 6. These changes, in effect, involve a return to the objectionable features about which so much controversy has waged.

DIRECTOR OF THE FOUNDATION

It will be remembered that the most controversial point in proposals for the establishment of a Science Foundation centered about how the Director would be appointed. Congress, in the bill it passed in 1947, resolved this by agreeing with the scientific and industrial leaders that a Foundation to be successful would have to avoid political domination, and that this could be accomplished only if the Director were not a political appointee but, on the contrary, was appointed by and was responsible to the eminent citizens who comprised the Foundation membership. As the House Committee on the Judiciary explained in connection with the 1947 bill, which provided for the Director being appointed by the Foundation, "in order that the Foundation will have a free hand to select a Director whom it deems to be competent, and to replace such Director at any time as such action seems desirable, it is provided that the Director is to be appointed without regard to civil-service laws." The provision in the 1947 bill that the Director was to be appointed by the membership of the Foundation was particularly objected to by the President.

The compromise bill, S. 2385, and the above first group of House bills provide that the Director is to be appointed by the President "after receiving recommendations from the Foundation." This was a compromise measure which was not objected to by the National Association of Manufacturers (sec. 6, par. a, of group 1 bills). This compromise provision has been stricken out of S. 247 and the corresponding group 2 bills. Section 5 of these group 2 bills provides that the Director of the Foundation shall be appointed by the President "after the members of the Foundation have been appointed and qualified." The NAM believes that this change is not desirable. The provisions of section 6 of group 1 bills is far preferable. It is true that this section 6 leaves it to the discretion of the President whether or not he follows the recommendations of the Foundation, but such recommendation would undoubtedly have some ameliorating advantages. Section 3 of these various bills provide, with respect to the appointment of the members of the Foundation, that "the President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by" various scientific or industrial organizations. There is even greater reason why, in the appointment of a Director, the President should be requested likewise to give due consideration to any recommendation made by the members of the Foundation. He would still have a free hand to make his own appointment "by and with the advice and consent of the Senate," but there would be at least some kind of an influence from the Foundation upon his appointments.

POWERS AND DUTIES OF THE DIRECTOR

With respect to the powers and duties of the Director of the NAM also is particularly concerned.

The NAM favors the provision of paragraph (b) of section 6 of group 1 bills, which paragraph reads as follows:

"(b) The Director shall, in accordance with such directives as the Executive Committee shall from time to time prescribe, exercise the powers set forth in this Act within the policies developed by the Foundation: *Provided*, That the authority granted to the Foundation by paragraph (c) of section 11 shall be exercised by the Director with the approval of the Executive Committee."

In canceling out the above paragraph (b), the specification of the powers of the director has been left out of group 2 bills. This is, in the opinion of the

NAM, a serious omission. As a result of this omission, there is no adequate check on the Director. It appears as if, in effect, this omission tends to make the Director a one-man Foundation with the members of the Foundation serving only in an advisory capacity. The NAM believes that the concentration of authority in one man is unsound.

OTHER DIFFERENCES BETWEEN FIRST AND SECOND GROUPS OF BILLS

As stated in general, except as pointed out, the two groups of bills are quite similar, though there are some unimportant differences in detail. It seems unnecessary, therefore, to discuss these other differences or the similarities of the two bills, especially as they were set forth in NAM's previous testimony.

AUTHORITY OF THE FOUNDATION

There is one provision, however, common to all these bills to which we wish to direct attention.

In section 11 of group 1 bills and in section 10 of group 2 bills, it is provided that "The Foundation is empowered to do all things necessary to carry out the provision of this Act, and without being limited thereby, the Foundation is specifically authorized * * * (e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, scientific research." This particular paragraph (e) is objectionable because of its ambiguity, especially since, in the above statement, the Foundation is not to be limited by what is necessary to carry out the provisions of the act.

Paragraph (e) would be very much improved if it were rewritten to read for example: "(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for carrying out the provisions of this Act." The paragraph in the several bills would authorize the acquisition of property of all kinds "resulting from scientific research." This, of course, means everything. While no doubt the Foundation itself would give due consideration to the provisions of the act, there should certainly be some check on the actions of the Director. Group 2 bills in striking out section 5 of the original S. 2385 and paragraph (b) of section 6 of group 1 bills has removed the provision reading: "the authority granted to the Foundation by paragraph (e) of section 11 shall be exercised by the Director with the approval of the executive committee." Thus it apparently is left to the Director to exercise the authority without necessity of approval by the executive committee or by the Foundation.

Not only is this paragraph (e) objectionable for the reasons above stated, but the language is so broad in referring to "personal property of all kinds" as to include patents, which as is well known are a species of property.

The act of 1910, as amended in 1918, provides a definite way by which the Government and its contractors can without license to the patent owner utilize any patents which it may deem necessary by providing for just compensation to the patent owner. The acquisition of the patents themselves is not necessary, therefore, and so far as the Government is concerned the acquisition of a non-exclusive license for the Government and those acting for the Government would be adequate, and all that is necessary.

This section (e), therefore, is both ambiguous and too broad in scope. The above suggested revision of paragraph (e) would remove its objectionable features.

GROUP 3 BILLS

Since the NAM in its previous above referred to testimony given on June 1, 1948, has discussed bills corresponding to H. R. 359, we merely call attention to that testimony as stating NAM's objections to this bill.

Mr. PRIEST. The Chair wishes to state that because of legislation on the floor of interest to all Members it will be necessary to adjourn this subcommittee at 11:45 this morning.

We have a number of witnesses here who were unable to get here yesterday, because of bad weather. We hope to proceed just as rapidly as we can. We do not want to shut anybody off.

We are glad to have our colleague, the Honorable James E. Van Zandt, of Pennsylvania, who has for a good many years been inter-

ested in National Science Foundation legislation, and we will be glad to hear him at this time.

STATEMENT OF HON. JAMES E. VAN ZANDT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF PENNSYLVANIA

Mr. VAN ZANDT. Mr. Chairman and members of the committee, like many Members of Congress, I have sponsored a bill to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

My bill is H. R. 1845.

To explain the details of my bill, a very distinguished educator of Pennsylvania and of the Nation is here this morning, Mr. Harry P. Hammond, who is dean of the School of Engineering of the Pennsylvania State College, which is located in my district.

So, if there is no objection, I would like at this time to introduce to the committee Dean Hammond and he will take over from this point.

Mr. PRIEST. Thank you, Mr. Van Zandt. Dean Hammond needs no introduction to this committee. He has been before it before and we are always glad to have him here. Dean Hammond.

STATEMENT OF HARRY P. HAMMOND, DEAN, SCHOOL OF ENGI- NEERING, THE PENNSYLVANIA STATE COLLEGE

Mr. HAMMOND. Mr. Chairman and gentlemen of the committee, just briefly to summarize my pedigree—

Mr. PRIEST. We hope you will do that, sir.

Mr. HAMMOND. I was educated as a civil engineer, but I am now an administrator of an engineering school. Therefore I am no longer an engineer.

I am here representing the Engineers' Council for Professional Development, which is an organization comprising institutional membership of most of the important national engineering societies. It has to do with the education, training, and development of engineers, and as such, it has an important interest in research.

I also administer two research units of the Pennsylvania State College: One, our engineering experiment station, which is operated by the college for the benefit of industry and public works, Government agencies. The other, an ordnance research laboratory, which the college operates entirely for the Navy.

I also might say that the college for the past 2 years has sponsored a national conference on the administration of research and on invitation there comes to the college each year 175 or so leading scientists and research administrators.

I think I am fairly well in touch with the feelings, the interest, and the attitudes of the men who are actually on the firing line of research work.

Now, I merely wish to discuss three points:

One, is whether there is need for this legislation.

Since I appeared last year, I will not stress that point greatly, but would say that it is virtually the universal belief that applied research in the United States has reached very good proportions, both in the Government, in industry and educational institutions, but basic research has not.

In our recent or more recent research conference that point was stressed. It was said by one of men from a very important Government laboratory, for example, at Wright Field, that they were stalled at the moment for developments in basic research to apply to the solution of specific problems with which they are confronted. I know for one, that they were stalled because of lack of knowledge of the phenomena in the upper atmosphere.

They feel that we at the college are now engaged in helping them with it and, so far as applied research is concerned I think we need have no fears, but so far as basic research is concerned we need to have great fears, not only for our national welfare, but for the national safety.

Neither industry laboratories nor Government laboratories or university laboratories have the resources with which to conduct basic research. I know that very few of the university laboratories to which various branches of the Government and industry have to look have very little money. We are just about struggling to keep our heads above the water and we have little money to devote to basic research.

Therefore, for the past 10 years several of my colleagues and I have been interested in this legislation. We have seen it pass all of the way from the start with the Kilgore bill down to the present bill, during that time in our opinion, most of the discrepancies, the unwise measures, the conflicts within the bills have been erased.

We would favor either of the two groups of bills that are before this group. I have a personal preference for H. R. 1845, not just because Mr. Van Zandt, our Congressman introduced it, but also because I think it is written in a little more liberal terms and a little more wisely.

Now, secondly, I would like to say on behalf of educational institutions of which the Pennsylvania State College is a part, that we have no fear that the Federal Government will take a dominating position, or stifle or control basic research in this country by reason of this bill. We have had an experience of between 80 and 90 years of Federal support for the land-grant colleges of the country.

I have a share in the operation of one of those institutions now and have previously taught in three other institutions, all of them privately endowed, and I would say we are in nor more sense of restraint or control, because of the Federal support of the land-grant colleges, than I was as a member of the faculty at the University of Pennsylvania.

We have no more sense of restriction, control or undue influence in the direction of our educational policies or in the operation of the institution or its specialties in reference to research work. I think that is boggy which need not concern you.

The third thing that I want to discuss briefly is the matter of this controversial patent provision. We have had experience with that at the college. We have a corporation known as the Pennsylvania Research Corp. All the members of that corporation are members of our board of trustees or members of the administrative staff of the college and the provision that we have for the handling of patents and which we have tried now for about 15 years is almost identical with the provisions of this bill, namely, that the college shall hold the

patents for the benefit of the public, but that the inventor shall receive recognition and compensation for his share.

I forget the exact wording, but at any rate it is a due share in the participation in the production of that patent. It has worked well.

Furthermore, we have had experience with patents and have at the present in the ordnance research laboratory, which as I have said is a Government-operated unit. We operate it for the Government. There again our experience has been a favorable one. What we do in the case of the ordnance laboratory is to take out the patent in the name of the college and then give the Navy a royalty free license. They do not wish anything more than that. That also has worked.

Mr. O'HARA. You say that you have given the Government a free license?

Mr. HAMMOND. We have given the Navy a royalty free license, but the college retains the patent. And we take it to be our duty to hold that patent for the benefit of the public. So far as I know we have only had one patent in our entire history that has yielded a profit to the college and that was on mushroom spores, strangely enough; but none of the technical patents have ever yielded us a profit.

Now, I simply hope, gentlemen, that this patent matter will not intrude to interfere with the passage of the legislation. It may easily do it.

May I make a rather gratuitous suggestion—not in the case of any previous speaker, but that you examine whatever motives there may be behind objections to the patent provisions of the bill. I do not refer to the previous speaker at all. I think his motives are the same as ours.

Now, that, Mr. Chairman, concludes my testimony. It is very brief. I have a written statement which I have submitted and my colleague, Dean MacQuigg, dean of the college of engineering and the director of the engineering experiment station of the Ohio State University was to be here today, but could not be here because of illness in his family, and he has submitted a companion statement. They are very much alike and it is not necessary to read either of them.

Mr. PRIEST. We are very happy to have the statements. Without objection, they will be included in the record at this point, if that is your desire and the desire of Dean MacQuigg.

Mr. HAMMOND. I would summarize my remarks in a very few words by saying we hope certainly now, after all these years, and after our near misses of two other years that this legislation will finally be enacted.

We have no preference between these two groups of bills except I have a personal preference for 1845, because of its greater simplicity in three or four places.

I want to say this also by way of addendum, that 2 years ago our engineering groups favored the appointment of the Director by the Foundation. The President vetoed those bills. After careful study of it and consultation with the President's office, we thought it was much better to go along with the President's wishes in that matter than it was to have it remain a point of controversy, and so we agreed to it. That was by unanimous consent of the engineering groups that were concerned. That is all, Mr. Chairman.

Mr. PRIEST. Dean Hammond, I share your desire to see that nothing of a somewhat inconsequential nature develops to further delay

the passage of this legislation. I think that feeling is shared by the entire subcommittee and the committee.

There is one question that I would like to ask at this point. You made the statement that you favored any one of the bills. There is a rather considerable difference between the group 1 and group 2 bills, as compared to the Celler bill.

Mr. HAMMOND. I am referring to the two groups of bills now before you.

Mr. PRIEST. You do not include the Celler bill?

Mr. HAMMOND. No; I refer to the bills headed by H. R. 12, and the bills headed by 1845, but those are the only ones.

Mr. PRIEST. Thank you. Are there any further questions?

Mr. O'HARA. Mr. Chairman?

Mr. PRIEST. Mr. O'Hara.

Mr. O'HARA. I might make a philosophical comment, Dean, that does not add much perhaps to this hearing; but I think it is a good thing that we review our thoughts on this legislation from time to time. My mind has changed from the first hearing we had.

Mr. HAMMOND. I am sorry, but I did not get your statement?

Mr. O'HARA. I say, I think that it is probably a good thing that we have had these legislative reviews.

Mr. HAMMOND. So do I.

Mr. O'HARA. I think it probably results in better legislation than the first or second time, possibly.

So that you do feel, Dean, that there should be some action taken along the lines of these two bills, as you have recommended?

Mr. HAMMOND. I do, indeed, and all other engineers agree on it.

Mr. O'HARA. That is purely in the field of basic research?

Mr. HAMMOND. And not in applied science. Applied science is well taken care of in this country, but not basic science.

Mr. O'HARA. Do you feel this bill will interfere with applied science?

Mr. HAMMOND. No; not at all, it will support it.

Mr. PRIEST. Are there any further questions?

Dean Hammond, it is a real pleasure to have you before this committee.

Mr. HAMMOND. Thank you, sir.

Mr. PRIEST. And we thank you so much.

Dr. MacQuigg was scheduled as the next witness, but we have his statement for the record. We are sorry that he cannot be here.

(The statements above referred to are as follows:)

SUMMARY OF REMARKS BY HARRY P. HAMMOND BEFORE THE SUBCOMMITTEE ON PUBLIC HEALTH, SCIENCE, AND COMMERCE OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE IN REFERENCE TO NATIONAL SCIENCE FOUNDATION LEGISLATION AND PARTICULARLY H. R. 1845

Mr. Chairman and gentlemen of the subcommittee, my name is Harry P. Hammond. I am dean of the School of Engineering of the Pennsylvania State College. I am appearing here as a member of a committee representing Engineers' Council for Professional Development, an organization comprising institutional membership of the following national associations of engineers: American Society of Civil Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers, American Institute of Chemical Engineers, American Society for Engineering Education, National Council of State Boards of Engineering Examiners, Engineering Institute of Canada.

Engineers' Council for Professional Development is the agency of these societies in matters relating to the education and professional development of engineers. As such, it has an important interest in research both as related to the professional development of engineers and as related broadly to the national economy and welfare.

Engineers' Council for Professional Development and its constituent societies representing the great body of professional engineers of the country—their total membership is approximately 100,000—has consistently supported the establishment of the National Science Foundation as a measure not only for the enhancement of the national economy, but also, and especially at present, of the national safety. During the course of development leading to the legislation now before you, the major features of form of organization, responsibilities, and powers of the Foundation have been incorporated in it as the engineering profession has hoped they would be provided. This includes, among other features, the provisions of the bill relating to patents.

In making this statement, I am referring especially to H. R. 1845 and S. 247 of the present Congress. We hope that the House will enact this bill into law without significant modification and that this will be done at an early date so that the organization of the Foundation can proceed promptly.

We believe that the fear, expressed by some, that establishment of the Foundation may lead to domination of basic research by the Federal Government is groundless. Experience of over 80 years in the administration of the Land Grant Act of 1862 under which the land-grant colleges and universities of the country were established under Federal aid has shown no tendency of the Government to control or attempt to control or regiment these institutions. Each of them, in addition to instruction, provides research programs in agriculture, engineering, and basic science that have been of inestimable benefit to the Nation. I can testify from personal experience as the administrative officer in charge of two research units which directly or indirectly receive Federal aid—one, the Engineering Experiment Station, and the other the Ordnance Research Laboratory of the Pennsylvania State College—that our operations are conducted entirely satisfactorily as to freedom of action and initiative. The National Advisory Committee for Aeronautics is another well-known example of the benefits of Federal support for research in many institutions throughout the country to the development of a particular industry and system of transportation as well as a vital arm of defense.

We believe that the organization of the Foundation, as provided in the bills, not only will aid existing research agencies, but promote better geographical distribution throughout the country. It seems to us that the bills, if enacted, will serve to preserve the independence of research laboratories and thus to capitalize on the initiative and resourcefulness of research workers. Of even greater importance, the Foundation will aid materially in the training of an increased number of qualified research personnel. This, at present, is one of the greatest single needs of the country.

The bill before you lays emphasis on the support of basic research. This is as it should be, for it is on the new developments of science and their subsequent applications that both our national economy and our safety rest. This country has made great progress in applying physical laws to industrial developments, but it has lagged behind in developing fundamental science. Applied science and development work can look to industry for support. In general, this is not the case with basic science. The stability of support that would result from the establishment of the Foundation would aid powerfully in supplying this need.

I have referred previously to the fact that engineers in general support the patent provisions of the present bill. It is my own belief, which is shared by others with whom I have discussed the matter, that the benefit of inventions made with the support of the Foundation should accrue to the public. This will not, I believe, deter individuals or corporations from developing inventions and taking out patents in their own right. Thus the essential features of the American patent system which has encouraged inventiveness will not be endangered.

STATEMENT OF CHARLES E. MACQUIGG, DEAN, COLLEGE OF ENGINEERING, AND
DIRECTOR, ENGINEERING EXPERIMENT STATION, OHIO STATE UNIVERSITY

My name is Charles Ellison MacQuigg and I am dean of the college of engineering and director of the engineering experiment station of the Ohio State University. My professional experience has been divided between industrial

research and engineering education. I am past president of the American Society for Engineering Education. My work through membership on numerous boards and commissions has kept me in contact with the applications of science to the welfare of society. I do not represent any specific group here today.

In previous hearings before this committee, the need for continued advance in scientific discovery has been pointed out; the idea is probably best documented in "Science, the Endless Frontier," a report by Dr. Vannevar Bush (July 1945) and further developed in the Steelman Report. Both of these presentations carry most convincing statistical support for their theses.

There are two or three points to which the attention of this committee is respectfully invited. In the first place, the type of research activity which this legislation would activate is in the field of "basic" rather than "applied" research, although most informed persons find difficulty in making categorical distinctions between the two activities; similar difficulty is found with definitions to distinguish "pure" research. The type of research which it is proposed to foster in this legislation is the kind which will add to our knowledge of fundamentals in science since it is believed that Federal sponsorship may well leave to private enterprise the application of known scientific principles to the safety and comfort of our people. Unless it is inadvertently dried up, there will likely be "risk" capital or funds available for the advancement of the application of the fundamental discoveries. This can be true in all of the advancing lines of development, whether it be in the manufacture of mechanical appliances or in biological fields.

On the other hand, it seems necessary to foster work in research where it is sought to discern principles rather than applications, in order to maintain a flow of fundamental concepts, many of which will subsequently be seized upon and developed for man's use. This has been the pattern through the history of science. It is hoped that through this legislation, much scientific talent may be discovered and the educational value of research programs alone will prove a wise investment for the Nation. Sponsorship for efforts in the discovery of basic principles is seldom undertaken by private interests and has therefore fallen to the institutions of higher education, the foundations, and a few industrial laboratories. Because of the immediate need for such effort, it is necessary for the Government to provide sponsorship.

If and when the program is implemented, it is hoped that even the suggestion of regimentation of research will be avoided and the aim will be to effect a wise coordination to prevent useless duplication. Proper emphasis must be given to problems of the national welfare in the several fields of engineering, medicine and the physical sciences.

The bills which have passed the Senate in the Eightieth Congress, second session, and the Eighty-first Congress, first session, together with the several bills which have been introduced in the present session of the House, all have had the benefit of 10 years or more of careful thought and revision. An early precursor of the present bill will be found in H. R. 3629 introduced in the Seventy-fifth Congress in January 1937. Since then several attempts have been made to enact this type of legislation, but without success because of the unfortunate absence of Executive approval.

The general features are the same in the bills now before Congress with only minor departures in the phraseology and without significant differences in objective or implementation. Throughout the history of this type of legislation over the past decade or more, the chief final matters of controversy have come down to (a) the organization of the Foundation and (b) the patent question. It has been thought generally by persons speaking for the sciences involved, that the major administrative responsibilities, such as nomination of the Director, would best be in the hands of the Board on the score that such a scheme would most nearly eliminate the possibility of partisan criticism. With regard to the questions surrounding patent protection and disposal of patents, it has been the majority consensus of opinion among the friends of this legislation, that it is neither wise nor necessary to enact special legislation to surround the patent negotiations arising out of research sponsored by the Foundation. The present patent laws should safeguard the interests of all concerned and because of the many variations arising in individual situations, specific negotiations should be left to the judgment of the contracting parties. Attempts to ascribe to the Foundation confiscatory powers respecting patents is purely gratuitous. In the case of a national emergency—such as the next one, if it develops—it will be such as to lead Congress to quickly enact laws going much beyond anything envisioned in the present legislation.

Mr. PRIEST. Our next witness will be Dr. Gustavson, chancellor of the University of Nebraska.

STATEMENT OF R. G. GUSTAVSON, CHANCELOR, UNIVERSITY OF NEBRASKA, LINCOLN, NEBR.

Mr. GUSTAVSON. Mr. Chairman, my name is R. G. Gustavson, chancellor, University of Nebraska, Lincoln, Nebr.

We have prepared a statement for the committee which we would very much like to have included in the record, if you see fit, and in order to save time, which I know you are tremendously interested in, may I just make a few comments and then perhaps answer any questions that I can.

I am representing today the National Association of State Universities and the Association of Land-Grant Colleges and Universities. These two associations have during the past 4 years at each of their annual meetings discussed the National Science Foundation bills and have always unanimously approved of the general program.

There have perhaps been only one or two places where we have questioned some item in the bill. These have had to do with the matter of geographical distribution.

It is our feeling that the experience which the land-grant colleges have had in the field of agriculture in having a geographic distribution has been so good that we feel that this would be worth while in the National Science Foundation. However, we are also of the opinion that in the light of discussions which that particular item has had and the general spirit which pervades the bills that even though this is not included as a specific part of the legislation, geographical distribution will undoubtedly be a part of the thinking of the people who have the administration of this bill in hand.

We are tremendously interested in seeing to it that the colleges over the land as a whole, rather than just some of the great research institutions shall have the benefit of this bill, particularly in terms of scholarships. But scholarships and fellowships in small institutions do not mean much unless those scholars and fellows are under the inspiration of men who have the opportunity and the ability to do research.

If there is any one thing that stands out in a review of the scientific talent of our country, it is certainly this that no State or no part of our Nation has had a monopoly on talent.

Mr. O'HARA. That applies to schools also, does it not?

Mr. GUSTAVSON. I think so. The name of Lawrence, for example, is synonymous with the cyclotron. He is a graduate of the University of South Dakota. The name of Urey, with isotopes. He is a graduate of the University of Montana. We could refer to many, many others in a similar vein. Dr. Lester Dragstedt, the great surgeon, is a graduate of a very small college in the West. You could go on indefinitely and show how important it is that the talent which is spread throughout the country should have an opportunity to blossom under the leadership of people who have an opportunity to do research.

I might just say that our two associations feel very positively that the most important thing to be done is to get a Science Foundation bill passed. We feel that the discussions which have taken place

during the past have been extremely worth while and that the Senate bill or the House bill, that is, Senate bill 247 or House bill 12, or some of the similar bills, would be eminently satisfactory.

And may I just say personally that as a member of the board of governors of the Argonne National Laboratory and as a member of the Research Advisory Committee of the United States Public Health Service, it is my very definite opinion that when we choose men of high caliber, which I am sure will be the case, for the responsibility that we have in mind for the Science Foundation bill, that once that is done, the fears that one has of failure of geographical distribution or the fears of some of these matters of Federal domination will die down.

The most important thing is the securing of high-caliber men. Once that is done we need not fear the placement of commas in the bill.

MR. PRIEST. We thank you, Dr. Gustavson and, if you desire to include your prepared statement in the record, it may go in at this point.

MR. GUSTAVSON. Thank you, sir.

MR. PRIEST. Are there any questions?

MR. O'HARA. Mr. Chairman?

MR. PRIEST. Mr. O'Hara.

MR. O'HARA. Coming from the Middle West, Dr. Gustavson, I am very happy you are here while we are giving consideration to this legislation.

MR. GUSTAVSON. Thank you, sir.

MR. O'HARA. I do have one concern and that is that there be a fair distribution of the funds to all of the colleges. I do not want to see just certain colleges—of course, there must be some basis for an equitable distribution and all of that sort of thing which these colleges shall have; but I certainly would like to see it spread geographically and with complete recognition both of the large and small colleges.

MR. GUSTAVSON. I think that is very important. We must remember for example that in the field of biological research the discovery which earned the Nobel prize came out of St. Louis University, whose equipment is certainly not of the best, who whose talent is very good.

MR. PRIEST. I believe, following up what Mr. O'Hara has said, Dr. Gustavson, that you can feel assured that this committee feels that a widespread distribution of the research activities under this Foundation is most desirable. That has been emphasized by the committee in executive sessions and in its reports in the past.

We are so happy to have had you here today.

MR. GUSTAVSON. Thank you.

(The statement above referred to is as follows:)

STATEMENT BEFORE A SUBCOMMITTEE OF THE HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE ON BEHALF OF THE ASSOCIATION OF LAND-GRANT COLLEGES AND UNIVERSITIES AND THE NATIONAL ASSOCIATION OF STATE UNIVERSITIES BY
R. G. GUSTAVSON, CHANCELLOR, UNIVERSITY OF NEBRASKA, LINCOLN, NEBR.

Mr. Chairman and members of the committee, my name is R. G. Gustavson, and I am speaking on behalf of the Association of Land-Grant Colleges and Universities and the National Association of State Universities, with the due authorization of the executive committees of these associations, whose membership represents about a third of the enrollment in higher educational institutions in this country. These two associations have discussed the question of a National Science Foundation at each of their annual conventions in the past 4 years, and have on each occasion unanimously endorsed it.

My chief purpose today is to urge the early establishment of a National Science Foundation.

The bill has been discussed repeatedly in both Houses of Congress, the points which have caused controversy in the past are well known, and the type and form of legislation which are as satisfactory a compromise of the various viewpoints of those who are united in support of the legislation as it is possible to achieve are now clear. The time has come for recognition of this fact and for the passage of the legislation to which this distinguished committee has given so much time, thought, and unflinching interest.

The committee has before it H. R. 12 and other House bills, and Senate bill S. 247, recently unanimously approved in the Senate. H. R. 12 is identical with S. 247 in several respects, and differs in others.

As you know, the two associations which I represent have in the past repeatedly expressed support of the inclusion in Science Foundation legislation of the principle of mandatory geographic distribution of a portion of the research funds to qualified institutions over the country.

This insistence has been mistakenly identified in some quarters as a selfish interest. I would like to make the record absolutely clear on this point:

The primary purpose of a mandatory geographic distribution of research funds is to assure that some of the major research effort will be outside of the centralized control of any federally established body or authority, however illustrious, devoted, and disinterested its composition. A secondary, and important, consideration in many minds was the fear that a central body might choose to utilize research funds primarily for the achievement of quick results through the building up of tremendous research staffs in a few locations. This type of extreme concentration of effort, while justified during a limited war period, in the long run seriously weakens the research possibilities of the country by stripping most institutions of their best research talent and of those who through example, inspiration, and instruction encourage others to devote themselves to science.

The land-grant institutions particularly have had experience over more than 60 years with Federal research assistance on a grant basis, with Federal responsibility for seeing that the funds are expended for the appropriated purpose, but with a maximum of local responsibility and initiative. This program has had continuity, has assured career permanence in research, has been coordinated and been enabled to avoid duplication and overlapping through regional, State, and National committees and informal interchanges. It has a remarkable record of achievement, both in scientific results and in the stimulation of able young people to become scientists.

A recent study by the National Research Council,¹ which shows not only which institutions have conferred doctorates in the past 10 years in the various natural sciences, but also where these young people got their undergraduate training, shows clearly the effect of the long continuity of agricultural research programs. Many institutions which are relatively small and not nationally known have a remarkable number of students who have gone on to the doctorate in certain of the biological and physical sciences.

These same institutions have made outstanding contributions to research, along lines which could scarcely have been anticipated by a central body in the allocation of funds. It is reasonable to believe that the research initiative and responsibility placed upon the institution has something to do with this record. I might add, also, that the individual States have so recognized the worth of this program that they are now supporting it to the extent of \$4 for every \$1 contributed by the Federal Government.

This principle and these issues have been discussed in both Houses of the Congress. Although the mandatory geographic distribution feature has not been included in either S. 247 or H. R. 12, certain features of both bills reflect a recognition by the Congress of the desirability of strengthening research over the country by both institutions and individuals, and of assuring that young people in all areas have not only the opportunity for scholarships and fellowships, but the stimulus of direct contact with qualified research people and going research programs.

The provisions of sections 3 (a), 4 (b), 9 (a), and 14 (g) of S. 247, and the provisions of sections 3 (a), 4 (b), 10 (a), and 15 (g) of H. R. 12, are all directed toward strengthening scientific research and opportunity over the

¹The Baccalaureate Origins of the Science Doctorates Awarded in the United States, 1936-45.

Nation. They are identical except for minor differences in the wording of section 4 (b), in which the wording of H. R. 12 is more clear-cut and stronger than the same paragraph of S. 247.

With the inclusion of these provisions in the legislation and the attention that has been directed to the problem, we have confidence that the Foundation will give recognition to the desirability of strengthening the scientific resources of the Nation, and feel justified in no longer pressing for the inclusion of a mandatory geographic distribution provision, in the interest of the major objective—early establishment of the Foundation.

There are various points on which S. 247 and H. R. 12 differ. These matters include some differences with respect to the powers of the Director; whether the executive committee shall be constituted by the legislation and given certain powers or its formation and powers be left to the Foundation; and whether or not certain commissions shall be named in the legislation. It would seem desirable that these differences be reconciled in a manner which would be least likely to arouse controversy, particularly as between the legislative and administrative branch.

It is probable that the committee has been or will be asked during the present hearings to provide for positive recognition of the social sciences in the legislation. There may also be recommendations that the provisions for scholarships, and possibly also fellowships, be deferred and included in later general scholarship or fellowship legislation.

With full appreciation of the desirability of strengthening research in the social sciences and preventing an imbalance in research, I would also point out that the present legislation does not bar the door to social science research or to inclusion of the social sciences in the scholarship and fellowship program, though it does emphasize the natural sciences. In view of the history of this legislation it would seem desirable that the present language of section 4 of both H. R. 12 and S. 247 be retained.

With respect to the scholarship and fellowship provisions, I would say that these also should not be changed in the present legislation. The provision of research fellowships is certainly inseparable from the purposes of the Foundation. The undergraduate scholarship may in time be made unnecessary by provisions of later legislation. If that becomes the case the Congress can then move to consolidate with it any portions of the Science Foundation program which should be so consolidated. If it is not the case the undergraduate program will certainly be an important function of the Science Foundation.

In conclusion, Mr. Chairman, I would like to say that I hope in discussing certain details and subsidiary issues I have not tended to obscure the central issue: The necessity for early establishment of the Science Foundation and its earnest and unanimous support by the Associations which I represent. The reports of Dr. Bush, of the President's Scientific Research Board, of the Hoover Commission, the resolutions of many scientific and educational bodies, and thousands of words of testimony before congressional committees make up the evidence in support of this position. The armed services have, in a sense, acted as "caretakers" for the work of the Science Foundation pending its establishment. They have shown an admirable spirit and performed an admirable function in this respect, but I am sure I need not point out to this committee that it is not sound national policy for the armed services to be the custodians of our major scientific effort, and that there are many functions of policy and coordination and support which they cannot and should not perform.

I respectfully urge the early action of the committee and the Congress on this legislation.

Mr. PRIEST. Our next witness is Dr. Bakhmeteff.

STATEMENT OF BORIS A. BAKHMETEFF, COMMITTEE ON SCIENCE LEGISLATION OF THE ENGINEERS' JOINT COUNCIL, NEW YORK, N. Y.

Mr. BAKHMETEFF. Mr. Chairman, I wish to introduce myself. I am Dr. Boris A. Bakhmeteff, chairman of the panel appearing on behalf of the Engineers' Joint Council.

The Engineers' Joint Council is a body which consist of the five presidents and high officers of the five great national societies who, in the aggregate, represent 100,000 engineers.

We had a big delegation here yesterday afternoon. Unfortunately, they could not stay and Dr. Bowles, representing the mining engineers, is here with me.

We have prepared a statement which I have deposited with the clerk, and I will ask it to be a part of the record.

Knowing how brief the time is, I will make just a few remarks.

I wish to say this Engineers' Joint Council have had a very keen interest in the National Science Foundation since 1945, and since 1945 I have been the chairman of a special panel or a special committee which dealt with these affairs.

I have testified and deposited different statements here and in the Senate.

I am very happy to state that our Engineers' Joint Council on recommendation of our panel gives absolutely full hearted and unequivocal endorsement of both groups of the bill. In other words, the group which is represented by H. R. 12 and the group which is represented by H. R. 1845, identical with S. 247 in the Senate.

We have not commented on the Celler bill. We are very familiar with that bill. As a matter of fact, I participated in the meetings that worked out that bill for the Seventy-ninth Congress. But we believe the present bills are so superior and so much better that, from a practical point of view, we concentrate only on these bills.

We know there are certain differences between the group represented by H. R. 12 and the group represented by H. R. 1845. As a matter of fact, just as my colleague and friend, Dean Hammond, we think that 1845 is a little more elastic and a little bit more practical. But that is a matter of secondary importance.

Whatever of these bills is going to be passed, I think the engineering profession, and I speak here for the five societies, will receive it with great gratitude and relief. I say relief, because I want to bring forth one point which we consider very important.

In the situation with the National Science Foundation bill, time is of great essence and any delay that might occur is extremely detrimental to the interests of the Nation.

Perhaps I should say a few words why we press so much on this question of time.

Now, engineers are supposed to be applied people and, of course, we know Dr. Steelman's committee has shown that in the research personnel employed in this country over 30 percent of the men are engineers. However, this bill deals with basic science.

The thing which is not well understood by the public opinion is that the engineers have their own basic engineering science. That is something that has happened within the last 50 years. We really work in the same line as the pure scientists but, of course we pick out the subjects which underlie future application, and perhaps work them out a little bit more practically.

Germany was the first country which started that great movement in engineering science and very largely the strength which Germany exhibited in the last conflict was due to that. It is accepted by all countries, but the fact is this: That of all fields of basic research it was basic research in the engineering sciences which lacked movement and quantity in this country. In other words, we engineers relied very largely on the theoretical work of the Old World, and application and technological development cannot progress unless it is backed

up actively all the time by this basic engineering research, and since the source has dried up, it is very important we lose no time in doing it here.

The only other short remark I will make is about patents. No one is more interested really in patents from a practical point of view than engineers, because the life of the engineer is invention and development. We feel, however, and it has been our consistent point of view, that the patent legislation is something which stands on its own feet and is covered by general law. That law, whatever it is at the moment, applies to everything, applies to National Science Foundation. Congress, in its wisdom, might change that law. The new law will apply then.

Just as Dean Hammond would deplore if these rather controversial questions would defer the enactment of the National Science Foundation Act, we believe that the patent provisions as they stand there are all right. We have no objection.

If there is anything Congress in its wisdom wants to omit, we will not mind. But I reiterate again time is the most important thing, and anything that would postpone it as it has been postponed in the past, would, in our opinion, be very detrimental to the most urgent and important interests of the Nation.

That is all I have to say.

Mr. PRIEST. Thank you very much. Your statement will appear at this point in the record.

(The statement is as follows:)

STATEMENT SUBMITTED ON BEHALF OF THE ENGINEERS JOINT COUNCIL BY ITS PANEL ON SCIENCE LEGISLATION TO THE SUBCOMMITTEE ON PUBLIC HEALTH, SCIENCE, AND COMMERCE, OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE, HOUSE OF REPRESENTATIVES AT PUBLIC HEARING ON NATIONAL SCIENCE FOUNDATION BILLS: H. R. 12, 185, 311, 359, 1845, 2308, AND 2751 ON MARCH 31, 1949

The engineers joint council is a body composed of the head executives of the five major national engineering societies viz: American Society of Civil Engineers, American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, American Institute of Electrical Engineers, American Institute of Chemical Engineers, with an aggregate membership exceeding 100,000 qualified American engineers. The engineers joint council constitutes thus the crowning body and acts as the spokesman of the organized American engineering profession.

The engineers are vitally interested in basic scientific research and have consistently and actively endorsed legislation purporting to establish a National Science Foundation. The views of the engineers have been recorded repeatedly in statements submitted by this panel at public congressional hearings, first to the Committee on Military affairs of the United States Senate in October 1945, and subsequently to the Committee on Interstate and Foreign Commerce of the House of Representatives in March 1947 and May 1948.

In all such depositions the engineers have expressed their conviction that the establishment of a National Science Foundation is a matter of vital importance for the defense, health, and general welfare of the country. Moreover, they have stated that time is of essence in the case and that the highest interests of the Nation imperatively demand that the enactment of proper legislation suffer least possible delay.

In regard to the form of the organization of the National Science Foundation the engineers joint council has put itself on record in recognizing "the need to establish the Foundation according to sound principles of government," while maintaining, on the other hand, that the form of organization needs "to command and retain the confidence and support of scientists and qualified laymen by giving them an effective responsible place in the Foundation's affairs."

In the views of the engineers panel, these principles were happily incorporated in the bills H. R. 6007 and S. 2335 presented to the Eightieth Congress, to which

bills the engineers panel gave unanimous endorsement in its statement of June 1948, in the conviction that the proposed legislation constitutes the best practical approach toward the establishment of a National Science Foundation. Since the present bills H. R. 12, 185, 311, 1845, 2308, and 2751 are practically identical with the above-mentioned legislative proposals, the engineers panel, on behalf of the engineers joint council, states its wholehearted and unequivocal endorsement of such bills.

The engineers panel is cognizant of certain differences between bills H. R. 12, 185, 311, and 2751 identical to bill H. R. 6007 of the Eightieth Congress and bills H. R. 1845, and 2308 identical to S. 247 recently passed by the United States Senate. The differences are considered not substantial, and while giving preference to the stipulations of H. R. 1845 and 2308 the engineers panel wishes to state that the organized engineering profession will gratefully welcome the enactment of a National Science Foundation bill in either of the aforesaid forms.

The engineers panel is cognizant of certain endeavors to revise the patent provisions of the bills. While the engineers by reason of their profession are directly and deeply interested in matters of patent protection, it has been consistently maintained that patent legislation is a subject in itself which lies outside of the direct purpose and scope of science legislation. In the opinion of the engineers panel the patent provision of the present bills H. R. 12, 185, 311, 1845, 2308, and 2751 are fully appropriate and adequate to science legislation. Since a speedy enactment of a National Science Foundation is a matter of urgent national necessity, the engineers panel would consider any delay arising from matters not pertinent directly to the subject, as detrimental to the best interests of the Nation.

Respectfully submitted.

PANEL ON SCIENCE LEGISLATION ENGINEERS JOINT COUNCIL,
BORIS A. BAKHMETEFF, *Chairman*.

MARCH 28, 1949.

Mr. PRIEST. Any questions, Mr. Sadowski?

Mr. SADOWSKI. No questions.

Mr. PRIEST. Mr. O'Hara?

Mr. O'HARA. No questions.

Mr. PRIEST. Mr. Wilson?

Mr. WILSON. No questions.

Mr. PRIEST. Mr. Bennett?

Mr. BENNETT. No questions.

Mr. PRIEST. We appreciate your appearance today. We regretted you could not be with us yesterday because of plane delay.

We did hear from Mr. Cox, one member of your panel yesterday.

Are there other members of this panel who wish to make a statement here?

Mr. BAKHMETEFF. Dr. Bowles is here, representing the mining engineers. I think he endorses completely what I said.

We had a gentleman of the mechanical engineers here yesterday, and from the chemical engineers who could not come today. We are absolutely unanimous and wholehearted on this. There is no difference of opinion.

Mr. PRIEST. We certainly appreciate your appearance.

Thank you, sir.

Mr. BAKHMETEFF. Thank you, Mr. Chairman.

Mr. PRIEST. Dr. Hugh Wolfe, will you come forward, please.

STATEMENT OF DR. HUGH WOLFE, PROFESSOR OF PHYSICS, NEW YORK CITY COLLEGE, NEW YORK, N. Y., REPRESENTING FEDERATION OF AMERICAN SCIENTISTS

Dr. WOLFE. Mr. Chairman, I am an associate professor of physics at the City College of New York, graduate of a small midwestern college, and Ph. D. from the University of Michigan.

I am here representing the Federation of American Scientists which is an organization made up largely of working scientists as contrasted perhaps from administrators from whom you have heard in some detail.

I have a prepared statement which you already have, and I am not going to try to read it to you either.

I want to comment on just a few points in connection with that prepared statement.

One of them has to do with the matter of the scope of the Foundation. I think it has been quite clearly agreed by everybody I have heard on this that the actual operation of the Foundation should be in the field of basic research.

It seems to me perhaps that a survey function which goes beyond the limits of basic research might very well be housed in this same Foundation, survey and recommendation but not actual function beyond the range of basic research.

Then there is a point that I am very concerned with which has to do with the matter of the security classification procedures that are provided for.

I am talking, I think, both about H. R. 12 and S. 247, where there is provision for security classification.

It seems to me rather important that the National Science Foundation should not deal with materials which require security classification; that it has a stultifying effect on the rapid development of research if the material is compartmentalized and one is not able to discuss with his colleagues the work he is doing.

I recognize the need for security classification in certain fields: atomic energy, where it is unfortunate but necessary we have it, and military research which is primarily applied rather than basic research.

I think it is quite necessary and proper to have those classifications. I think in the field of basic research, which is the fundamental job of the National Science Foundation, there should be no security classification, and that any work which was done in a field requiring such classification should be carried on under other auspices rather than those of the National Science Foundation; under military auspices if it is military research that is involved.

It seems to me it would be very much better for the whole development of science in this country if the Science Foundation could be kept clear of those activities.

MR. PRIEST. Pardon me for interrupting at that point. We do not usually interrupt the witnesses during their statement, but I wanted to ask this question:

It is your position that so far as the general program is concerned, the Foundation should not engage in research that might constitute classified information resulting from research?

DR. WOLFE. That is right.

MR. PRIEST. However, if, as all of us know, you perhaps far better than I because you are a scientist, we can never tell just what direction research may take or what we might stumble on that might immediately become classified—have you thought of how that should be handled?

DR. WOLFE. In the prepared statement I have a proposed wording and I will cite briefly the idea and go on from there without reading it in detail.

Mr. PRIEST. Thank you.

Dr. WOLFE. Which is that if research which is being carried on under the Foundation is found to require classification that it shall be classified by the Director in consultation with the Secretary of Defense pending its transfer to an agency which can appropriately handle classified work.

Mr. PRIEST. Thank you, sir.

Dr. WOLFE. Then there is one other point that I want to make, and I think that is all.

This point has to do with the business of international cooperation. We are strongly in favor of international cooperation in science. We believe that science is essentially not restricted to national lines and national boundaries. It is the long tradition of science.

We do think it is a little unfortunate that the last paragraph of the bill states that our international cooperation shall be definitely coordinated with our foreign policy. It seems to make a provision which says that science shall be explicitly an agent of foreign policy for our country.

I would recognize that no international cooperation could be undertaken without the approval of the President and it would necessarily involve some consultation with the State Department, but I think the language of the bill which says explicitly that our international cooperation shall be directed along the lines of our foreign policy is perhaps unfortunate.

Mr. PRIEST. If I might read that language :

It shall be conducted in such a manner as is consistent with the foreign policy objectives of the United States.

Do you think that language should be clarified somewhat to give more latitude, not make it primarily apply to a governmental operational foreign policy?

Dr. WOLFE. Yes. Again there is some specific language proposed in my prepared statement, but the essential idea, while I recognize that our foreign policy will have some bearing on the international activities that we undertake—

Mr. PRIEST. It says: "consistent." The word "consistent" here was chosen because we would not want it to be inconsistent with our foreign policy.

Dr. WOLFE. I would not want it to, either, but I think it lays us open to charges by people unsympathetic with the way we do things that any interest we show in foreign science is really a matter of trying to implement our national interests and foreign policy rather than a genuine interest in the advancement of science. It is a matter of language rather than fundamental intent, perhaps.

Mr. O'HARA. What would be horrible about having it consistent with the national interests? After all, is not that of some importance to the people in the country?

I have a real concern in the objectives of the State Department as consistent with national interests and what they think is international. Personally, I am a nationalist; first, last, and always. I think when we get to the point where we are thinking about everybody else in the world and forgetting our own national welfare and our own people, we are in a rather bad shape. Maybe that is isolationism. Call it what you may, that is the way I feel.

Dr. WOLFE. I do not want to take up your time, but the tradition of science for hundreds of years is that science is essentially the same thing wherever it develops and benefits people wherever it develops.

I think that is all I want to comment on at this time, unless there are questions.

Mr. PRIEST. Mr. Sadowski, do you have any questions?

Mr. SADOWSKI. No, I have none.

Mr. PRIEST. Mr. Wilson.

Mr. WILSON. No.

Mr. PRIEST. Mr. Bennett?

Mr. BENNETT. No.

Dr. WOLFE. I did not comment on the administrative provisions, and there I would make one further comment if I may.

Mr. PRIEST. Yes.

Dr. WOLFE. As between H. R. 12 and the Senate version, we are inclined to approve and prefer H. R. 12 in that it seems to make more explicit the relationship of the Director to the Foundation, authorizes him to carry out the work of the Foundation within the policy directives laid down by the Foundation Board.

We favor that provision as does the NAM; I think for precisely the opposite reasons.

Mr. PRIEST. May the Chair state, after the past few years that particular provision which finally has emerged has been the result of quite a number of conferences, and if those conferences and that committee work has brought approval for two opposite reasons, we feel we have not done too bad a job on it.

Dr. Wolfe, we appreciate your appearance today.

Dr. WOLFE. Thank you very much.

(Dr. Wolfe's statement is as follows:)

VIEWS OF THE FEDERATION OF AMERICAN SCIENTISTS, WASHINGTON, D. C., ON
NATIONAL SCIENCE FOUNDATION LEGISLATION (H. R. 12, 185, 311, 359, 1845,
2308, 2751, AND S. 247)

The statement which follows was presented at the hearings of the House Interstate and Foreign Commerce Committee on H. R. 6007 and S. 2385 (June 1, 1948). Since the National Science Foundation legislation now before the Public Health, Science, and Commerce Subcommittee is very similar to that considered last year, and since the views of the Federation of American Scientists remain unchanged, the statement has been revised only slightly so as to conform to current bills.

The Federation of American Scientists urges the earliest possible establishment of a National Science Foundation. Despite the lessons of the recent war, and not minimizing the importance of the contributions made to the support of science by both public and private agencies since the war, it nevertheless remains a fact that the United States has no agency specifically charged with the responsibility for reviewing, evaluating, and financially aiding the national science effort as a whole. We Americans have shown a tendency to concern ourselves with the exploitation of past discoveries, but to neglect the processes of education and basic research which will lead to new discoveries. For the future, we cannot count on benefiting to the extent that we have in the past from basic research in other countries and from the importation of fundamental scientists trained abroad. We must discover and develop new scientific talent amongst our own people in order to increase the benefits from basic and applied scientific research. Thus, funds allotted to the National Science Foundation can be expected to yield a handsome return to the national welfare.

At its December 1947 meeting the Council of the Federation of American Scientists adopted a resolution calling for National Science Foundation legislation embodying the following:

1. An organization integrated into the Federal Government, with a full-time Administrator appointed by the President, and with direct responsibility for disbursement of Federal funds; and assisted by an advisory council from representative fields of science, government, and the public.

2. Specific assignment to the Foundation of responsibility for formulation of national science policies, with the duty to survey public and private research and to make recommendations for its coordination.

3. Full discretionary power for the Foundation to set up necessary divisions and commissions without prior legislative enumeration.

4. Pending the establishment of a general education program, responsibility of the Foundation for developing the Nation's scientific personnel through scholarships and fellowships.

5. Provision for distribution on a geographic and population basis, to privately and publicly supported institutions alike, of part of the funds allotted for support of research for training of personnel.

6. Authority for the Foundation to publish and disseminate to scientists and the public, results of scientific inquiry; and to promote international scientific cooperation.

7. Free availability or dedication to the public of all patentable discoveries made during research financed through the Foundation.

8. Provision that all research supported by the Foundation be nonsecret.

9. Provision for a military liaison committee to ensure that results of research supported by the Foundation are brought promptly to the attention of military agencies.

At its April 1948 meeting the Council of the federation reaffirmed its adherence to the above nine points and stated its belief that the section entitled "Coordination with Foreign Policy" in pending bills should be deleted and replaced by a statement permitting support of international science through international agencies. Again in November 1948 the federation council affirmed its basic policy declaration and instructed its representatives to make its views known to Congress.

A number of the points raised in these official federation statements deserve special comment, particularly in comparison with bills now pending before Congress. These bills fall into three groups (a) S. 247, the Senate version; (b) H. R. 12, 185, 311, 1845, 2308, and 2751 which are identical and will be referred to under the heading of H. R. 12; (c) H. R. 359. Analysis of these bills shows that none of them fully conforms to federation recommendations, and hence none is given blanket endorsement. To facilitate discussion, however, H. R. 12 is taken as the "basic bill" and suggestions for improvement are made in the form of amendments to this bill.

1. *Powers of the Director and the Foundation.*—After studying the long, detailed controversy over the administrative structure of the Foundation, the Federation supports the view that actual initiative and responsibility should rest with the Director, as a full-time functionary, and that only advisory and consultative responsibilities should be assigned to the part-time Foundation. This view is based on considerations of sound public policy as well as administrative efficiency. The disbursement of public funds by private citizens is undesirable, particularly when these individuals are so situated as to benefit from their own decisions. Moreover, it is feared that part-time personnel cannot give to the Foundation the cohesive, continuing leadership necessary for vigorous and effective action. For these reasons the relationship between "Administrator" and "Board" provided in H. R. 359 seems to us preferable over that of other bills. As between H. R. 12 and S. 247, we prefer the former. S. 247 rests all authority in the part-time Foundation and makes the Director only "chief executive officer." In this situation, we believe, capable men will either not be attracted to the Directorship, leaving the Foundation without effective leadership, or they will become involved in constant conflict over authority with the part-time Foundation. H. R. 12 at least delimits and defines the relative powers and responsibilities of the Director, the Foundation, and its Executive Board, although still leaving initiative and final authority with part-time personnel. H. R. 12 would be further improved by amending section 11 (line 12) as follows, "The Director, within the general policies developed by the Foundation, is empowered to do all things necessary to carry out the provisions of this act, and without being limited thereby, is specifically authorized * * *."

We suggest also that a sentence be added to section 2, as follows: "The Foundation shall consist of a Board and a Director." Thereafter the term "Board" should be used to apply to the 24-member body, whereas the term

"Foundation" should be used to apply to the agency as a whole. This will eliminate ambiguity presently existing in several provisions of the act, and avoid confusion in the actual operations of the Foundation.

2. *Scope of the Foundation.*—It has been pointed out repeatedly since the war that, alone among the major powers, the United States does not have a unified, comprehensive policy on scientific research or the support of science. The realization of this gap was one of the original incentives toward national science legislation. It was hoped that the proposed Foundation would be assigned the responsibility for study of needs and performance, and for making recommendations leading toward a national policy on science. In formulating such a policy it must be kept in mind that (1) the influence and activities of science extend into industry, agriculture, education, defense, public health—virtually every aspect of the national life; (2) scientific discovery and application are inextricably intertwined; (3) scientific research goes on in hundreds of laboratories supported by government, industry, colleges and universities, and private foundations. Therefore, although the National Science Foundation will primarily support basic research, its surveys and policy recommendations should encompass all of science. None of the pending bills appears to us to focus sharply on this point. H. R. 12 would meet the objective if amended as follows:

(a) Page 3, line 15, delete "basic."

(b) Amend section 4 (a) to include a paragraph instructing the Foundation "to maintain a continuous survey and evaluation of research programs carried on by government, university, industrial, and other agencies, and to report annually to the President the results of such surveys, and recommendations based upon them."

3. *Divisions and special commissions.*—The establishment of specific divisions and commissions, i. e., the organization of the Foundation in terms of subject areas, is a technical question requiring careful coordinated study by experts in a number of fields. Although H. R. 12 gives wide latitude to the Foundation in establishing divisions, it specifically enumerates three special commissions on particular medical problems, thus imposing on the Foundation, prior to its consideration of the matter, special commissions on the subjects already provided for by the establishment of a Division of Medical Research. We recommend that the specification of particular commissions be deleted from H. R. 12, section 4 (a) 7, by substituting the corresponding section of S. 247.

4. *Distribution of support.*—The Federation of American Scientists, conscious of the need for expanding our basic research plant and tapping all sources of potential scientific talent, has consistently supported provisions seeking to spread Foundation support throughout the country, and particularly to areas previously underdeveloped. We regard the provision of S. 247 on this point as totally inadequate, since it gives two simultaneous directives—to seek efficiency in achieving results and to avoid undue concentration of research—directives which may in practice be contradictory. If efficiency in obtaining solutions to known problems is desired, it can best be obtained by concentration of effort at existing centers. But if long-term development of scientific potential is the goal, it can best be attained by encouragement of expansion, even at the sacrifice of immediate efficiency. It is the latter which should be the primary objective of the Foundation since other sources can, and do, provide for short-term goals.

H. R. 12 avoids the conflicting directives but does not make a clear statement on the importance of expanding the scientific plant into new areas. It instructs the Foundation "to avoid undue concentration" of research and education in the sciences. Without definition of what constitutes "undue concentration" this is no directive at all. What is needed is a clear statement of the desired basic policy of wide-spread distribution of funds. We suggest the following amendment to section 4 (b) which we believe achieves this result without binding the Foundation with a specific formula:

"In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be the objective of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, particularly emphasizing the development of scientific resources in the scientifically underdeveloped and undeveloped areas of the Nation."

5. *Security classification.*—All pending bills provide that the Foundation "after consultation with the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under this act,

and for the proper safeguarding of any information or property so classified."

Since responsibility for security classification in the field of atomic energy continues to rest with the Atomic Energy Commission, it is clear that provision is being made for security classification in other fields of research. The extension of security to new areas of science, particularly basic science, is a source of serious concern to nearly all scientists. We believe on the basis of long experience that free exchange of information and of ideas is essential to the rapid advance of science. Consequently, scientists who accept security provisions as necessary and right in the specific field of military research are loath to see them extended into science proper.

The existence of work under Foundation auspices which could not be freely discussed would tend to act as a damper on discussion of related work which was not actually classified. Mr. Pike of the Atomic Energy Commission has indicated that this sort of thing has occurred in the case of nuclear physics. It is therefore urged that, in order to maintain as sharp a separation as possible between classified military research and unclassified civilian research, the policy of the Foundation be to give continuing support only to unclassified research. Where research under the auspices of the Foundation results in discoveries of military significance, such research should be transferred, as soon as feasible, to one of the agencies whose concern is with classified research.

It should be noted that the problem of the effects of security on science is a general one of far-reaching importance in these critical times. A piecemeal approach, granting authority for security regulation to individual agencies, does not seem sound. There is need for a broad study of the whole problem, to result in a uniform policy clear to all. This will go far to reduce the uncertainty in the minds of scientists and others, and thereby alleviate the dampening effects of security regulations on free investigation.

With these considerations in mind, it is recommended that section 16 (a) of H. R. 12 be amended to read as follows:

"It shall be the general policy of the Foundation not to give continuing support to research requiring security classification. When any research under its auspices is deemed by the Foundation, in accordance with such national policies as may be established by Congress, to require security classification, the Director shall consult with the Secretary of Defense to determine the appropriate agency to which support of the research should be transferred. Pending such transfer, security classification and procedures shall be determined by the Director after consultation with the Secretary of Defense."

6. *Coordination with foreign policy.*—The Federation of American Scientists believes firmly in international cooperation in furthering scientific activity. It therefore approves the general purposes of all pending bills in authorizing the extension of support by the Foundation in such international activities. The method adopted, however, requires consideration. In S. 247, section 15, the support is made contingent upon "the foreign policy objectives of the United States as determined by the Secretary of State after consultation with the Director." H. R. 12, section 16, contains an essentially similar provision although with somewhat improved wording. Real dangers exist in this frank coupling of scientific support and foreign policy. To scientists it will represent a breach of a long-standing tradition—that the search for objective knowledge is not to be cast along national lines or limited by national policy. To critics of the United States, it will afford an opening for the charge that our assistance is no indication of genuine concern for extension of knowledge or for the welfare of other countries, but only an attempt to further our own interests. In the past, only totalitarian nations have sought to make science subservient to national interest. It seems hardly appropriate for us, who so strongly oppose totalitarianism, to accept one of its objectionable features. We believe that the National Science Foundation, in giving support to international science, should do so through established international agencies, e. g. UNESCO and the international scientific unions, with no strings of special national interest attached. Therefore, we recommend that the section entitled "Coordination with foreign policy" be deleted from pending bills, that the words, "and foreign countries" be deleted from section 11 (c) of H. R. 12, and that section 16 (a) of H. R. 12 be amended to read as follows: "With the approval of the President, and through the facilities of the Department of State, the Director is hereby authorized to cooperate in any international scientific research activities, including scientific activities of the United Nations Educational, Scientific, and Cultural Organization, and other accredited international scientific organizations, consistent with the purposes of this act, and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Director may deem desirable."

7. *Support of research by the Foundation in the field of atomic energy.*—Section 15 (k) of H. R. 12 states, "The Foundation shall not support any research or development activity in the field of atomic energy * * *, without first having obtained the concurrence of the Atomic Energy Commission." It should be noted that the Atomic Energy Act of 1946 delegates to the Atomic Energy Commission exclusive responsibility and control not for the whole ill-defined field of atomic energy, but for the more limited and more precisely defined field of fissionable materials. The present provisions of H. R. 12 would require the Foundation to obtain the approval of the Atomic Energy Commission, for instance, before it could support research employing radioactive isotopes—rapidly becoming commonly used tools in investigations in medicine, agriculture, chemistry, physics, engineering, and other fields of science. To bring H. R. 12 into accord with the Atomic Energy Act of 1946, it is recommended that section 15 (k) be amended by deleting the words "in the fields of atomic energy," and substituting the words, "involving fissionable materials as defined in the Atomic Energy Act of 1946."

In summary, the Federation of American Scientists urges the passage of a National Science Foundation bill during the present session of Congress. It believes the bills now pending provide a sound basis for establishing an effective Foundation, but they can be improved in the following ways:

(a) Clearly defining and extending the authority and responsibility of the full-time Director.

(b) Broadening the survey and policy recommending functions of the Foundation to include all of science.

(c) Omitting the enumeration of specific commissions.

(d) Strengthening the provisions designed to ensure wide-spread distribution of support, and thereby the expansion of basic research activities and training of personnel.

(e) Emphasis on a policy of support of non-secret research by the Foundation.

(f) Emphasis on the extension of human knowledge through scientific activities rather than emphasis on our narrow national interests.

(g) A clearer definition of research to be supported in the field of Atomic Energy.

Finally it should be stressed that the need for a National Science Foundation remains urgent. We cannot delay longer without grave consequences to our scientific position. In basic science and in training of scientific talent the war years were lost years. Temporary mechanism, wisely established by the Armed Services, have provided a limited substitute for a national science policy since the war. But we must now deal with the problem directly and permanently. As scientists our members value science for itself, for the personal satisfaction it yields, and the increased understanding it brings. As citizens, they value it for the promise it offers to human progress and well-being. As an organization of scientists aware of their responsibilities as citizens the Federation regards the establishment of a National Science Foundation as one of the most important contributions the Eighty-first Congress can make to our national life.

Mr. PRIEST. Dr. Dael Wolfle. Will you come forward Dr. Wolfle?

STATEMENT OF DAEL WOLFLE, SECRETARY, INTERSOCIETY COMMITTEE FOR A NATIONAL SCIENCE FOUNDATION, WASHINGTON, D. C.

Mr. WOLFLE. My name is Dael Wolfle. I represent the Intersociety Committee for a National Science Foundation.

That group was organized 2 years ago by the scientists of the country to give themselves a means of coordinating their own thinking about science foundation legislation and as a means of expressing their joint judgment.

The committee consists of representatives from each of some 75 scientific organizations. That group with almost complete unanimity wants to endorse, as it has in previous hearings, the National Science Foundation principle. We are willing to approve either the group

1 or group 2 bills or any reasonable compromise that lies within that range.

I have here a prepared statement which summarizes our preferences and recommendations on a half a dozen or so specific points in which the group 1 and group 2 bills now differ.

I will be glad to have that put in the record and not read it now.

Mr. PRIEST. It will go into the record if you wish.

Are there any questions?

Do you have a further statement, Doctor?

Mr. WOLFLE. No; I think the statement in the record will be adequate.

Mr. PRIEST. We appreciate your interest and appreciate the interest of the intersociety group, and personally the Chair appreciates some personal help that the doctor has given the Chair in connection with these hearings and at other times.

Thank you so much.

(The statement is as follows:)

STATEMENT OF DR. DAEL WOLFLE, SECRETARY OF INTERSOCIETY COMMITTEE
FOR A NATIONAL SCIENCE FOUNDATION

Members of the Subcommittee on Public Health, Science, and Commerce, my name is Dael Wolfe. I represent the Intersociety Committee for a National Science Foundation. That committee was organized 2 years ago by the scientists of the country to provide themselves with a means of expressing their judgment concerning national science foundation legislation. The committee consists of representatives from each of some 75 scientific organizations. Most of those organizations are national in scope; they represent all branches of science; and they include several hundred thousand individual scientists.

Through questionnaires and correspondence and through several meetings of the entire committee we have considered the various bills that have been introduced into the Eightieth and Eighty-first Congresses and have in previous hearings informed the Committee on Interstate and Foreign Commerce of our complete endorsement of the principle of a National Science Foundation.

On this point we are in full accord with the President, the Commission on Scientific Research which he established by Executive order in 1946, and the Members of both Houses of Congress who have introduced the bills now under consideration. With almost complete unanimity, American scientists who have expressed themselves on this issue are convinced that a National Science Foundation is necessary for the maximum development of the Nation's scientific resources.

As to the specific provisions of the bills now before the House of Representatives and the bill, S. 247, which has passed the Senate, the intersociety committee has the following recommendations to make:

1. With regard to the administrative structure, we have a slight preference for S. 247 over H. R. 12 or the similar House bills. The Senate bill does not require a specific committee organization as is required in most of the House bills. It is extremely unlikely that the Foundation would try to operate without an executive committee. The appointment of such a committee is therefore almost as likely under S. 247 as it is under the House bills. But other committees may also be necessary. Time may change the Foundation's requirements. Since fairly general agreement has now been reached upon a Foundation consisting of 24 experts, we believe that they should be given as great freedom as possible to arrange the details of their own internal organization and to change those details from time to time as changing conditions may warrant.

2. With regard to the Director of the Foundation, we support the manner of appointment described in section 6 (a) of H. R. 12. We strongly recommend the retention of section 6 (b) of H. R. 12, which specifies the duties of the Director. This statement of his duties and authority seems much preferable to the silence of S. 247 on the question of the authority of the Director.

3. With regard to the special commissions provided for in section 4 (a) (7), we prefer the Senate version to that included in the House bills. Nowhere else in the bills are specific research problems mentioned. And that seems wise as a general

policy, since the Foundation itself will be able to select more wisely than we can now the problems of greatest importance at any period of time.

4. With regard to research activities in connection with matters relating to the national defense, we recommend that the bills be changed to permit the transfer out of the Foundation of any research which requires security classification. The purpose of the Foundation is to promote the progress of fundamental research. Investigations which serve this purpose will not need to be classified. Those which do require classification can frequently be better handled by other agencies. We therefore recommend that section 15 (1) be amended to read as follows:

"The Foundation, after consultation with the Secretary of Defense, and in accordance with such national policies as may be established by Congress, shall establish such regulations and procedures as it deems proper for the security classification of information or property having military significance in connection with scientific research under this act, and for the proper safeguarding of any information or property so classified, or for the transfer of such research to an appropriate other agency."

5. The present bills provide for transfer of the wartime National Roster of Scientific and Specialized Personnel to the Foundation. That roster, however, is dead. We therefore suggest that the following statement replace the present section 15 (j) of H. R. 12:

"The Foundation shall establish or support such activities, including necessary rosters, as will effectively maintain an adequate accounting of the current numbers and trends in numbers of scientific and specialized manpower in the United States and the current requirements and trends in requirements for such manpower in the United States. Except for material which would adversely affect national security, the results of these studies shall be made freely available.

"Any roster of scientific and specialized manpower and other pertinent information derived from these and related studies undertaken by the Foundation shall be maintained in such form as to be usable in event of the mobilization of the Nation's scientific and specialized manpower."

6. With regard to the geographical distribution of the Foundation's research grants and contracts, the intersociety committee has carefully considered the various formulas that have been included in past bills. We are in complete agreement that one of the Foundation's major functions should be to aid in increasing the Nation's total scientific resources by improving many existing research laboratories and by making certain that adequate research facilities are developed on a broad geographic basis. We therefore endorse the statement of section 4 (b) of H. R. 12 and other statements in this bill intended to make certain that Foundation funds will be used to aid scientific progress throughout the entire Nation.

Mr. PRIEST. Our next witness is Dr. M. H. Trytten. Will you come forward, Dr. Trytten?

STATEMENT OF M. H. TRYTTEN, DIRECTOR, OFFICE OF SCIENTIFIC PERSONNEL, NATIONAL RESEARCH COUNCIL, WASHINGTON, D. C.

Mr. TRYTTEN. My name is M. H. Trytten. I am Director of the Office of Scientific Personnel at the National Research Council, and I should like to state that, differently from these other people who testified, I do not represent any organization. I am speaking entirely for myself.

I have prepared testimony as the other speakers this morning, and copies of it have been given to the secretary, and I shall appreciate it if that were introduced into the record.

Mr. PRIEST. It will be placed in the record at the end of your remarks.

Mr. TRYTTEN. The part I am concerned about particularly is the question of fellowships and scholarships. It seems to me extraordinarily important that provision be set into motion as soon as possible.

The testimony that I provide here will give certain factual statements bearing upon the need for such fellowships and scholarships. It

will show, for example, that the development of the training of scientists in the United States over the past few decades has been a very rapid one up to the time of the beginning of the Second World War.

Beginning, say, before the First World War, the stimulation of such training was quite noticeable. From that time up to about 1941, roughly twice as many persons were trained each decade as in the previous decade.

That, roughly, represented the rate of increase in training until in 1941 there were about 2,000 persons trained to the doctorate level in the sciences in American universities. Then there began a decline which was incident, of course, to the activities of the war, until in 1945 and 1946, in those 2 years, the number trained was less than 50 percent of those trained in 1941. And we have still by no means recaptured even the rate of training of 1941.

The past year the total will be of the order of 1,700. And the census which we have carried out will show that, in the opinion of the directors of training in various American universities, the total number trained in the next 5 years, beginning with the year 1948, will still not, on the average, reach the level which we trained in 1941.

In other words, we have not yet reached, nor will we reach in the next 2 or 3 years, on the average, the rate of training which we had actually arrived at in 1941; and this is in spite of the fact that the interest in research in the United States, the need for it and appropriations for it, have increased very tremendously—in fact, more so than in the period when our rate of training of scientists was increasing at this rate.

That is, in general, the type of information which is in this report and which I should like to submit for the consideration of the committee.

Mr. PRIEST. It is all included in your statement?

Mr. TRYTTEN. That is right, Mr. Chairman.

Mr. PRIEST. It will go in the record at this point, without objection. (The statement is as follows:)

TESTIMONY OF M. H. TRYTTEN, DIRECTOR, OFFICE OF SCIENTIFIC PERSONNEL, NATIONAL RESEARCH COUNCIL, IN SUPPORT OF PROVISIONS OF H. R. 12, 185, 311, 1845 AND 2308

I am the Director of the Office of Scientific Personnel of the National Research Council and desire to express my support of the concept of the Science Foundation as provided for in the bills listed above. It is a part of the function of this office to administer various fellowship programs of the National Research Council. Under these programs, several hundred fellowships are granted annually in the sciences at the post-baccalaureate level. My opinions are personal and do not necessarily reflect the position of the organization with which I am connected.

I wish to testify particularly concerning the provisions of H. R. 311 with special regard to section 10 (a), which provides for scholarships and fellowships in the sciences. I understand these provisions are the same as those in H. R. 12, 185, 1845 and 2308. I have not had an opportunity to examine the other bills under consideration by this committee.

In my estimation, there is a need for these provisions. The development of science has been spectacular in the present century. United States universities have turned out persons trained to the doctorate level at a rapidly increasing rate over the past decades. In the period just before the First World War, about 250 doctorates in the sciences were turned out annually by American universities. By the end of the next decade, this had jumped to an annual total of about 500 doctorates. By 1931, about 1,000 doctorates in the sciences were

turned out annually. This had increased so that in 1941 over 2,000 doctorates of the present century the number of persons trained to the doctorate level in production of persons trained to this level by American universities was sharply curtailed during the war. It will be noted, therefore, that from the first decade of the present century the number of persons trained to the doctorate level in the sciences approximately doubled every 10 years. Since these persons were absorbed by American scientific activities as rapidly as they were trained, the presumption is that scientific research has doubled by the same factor of increase during this period.

It may be questioned as to whether this rate of increase will continue. It is my belief that it will because of the following developments:

1. The development of nuclear science and its applications, both military and nonmilitary, which have opened up whole new fields of research with great and insistent demands for highly trained personnel. This includes the application of nuclear byproducts in almost every field of science, thus accelerating development of basic research in a great number of fields.

2. The role of science in military affairs which has sharply increased and presents substantial demands for scientific personnel.

3. The increased role of the United States in foreign affairs. A result of this new role is an increased demand from abroad for American scientific talent. This is demonstrated by such activities as the Fulbright program, the ECA program, and the program of technological assistance to underdeveloped areas now being developed by the Government.

4. The vast expenditure of funds for research by American industry.

5. The great expansion of the role of the physical sciences in basic biological and medical research with consequent increase in basic research activities in such health problems as heart disease, cancer, antibiotics, etc.

6. The world-wide interests of the United States resulting in new fields of research in many areas such as the Far East and the Pacific islands.

7. The fact that the United States now needs to fill the gap in basic scientific research which has been left by the weakening of scientific research abroad. It is also true that we need to regain the loss in basic science resulting from the great shift to applied science in the war years.

There seems little reason to doubt, therefore, that the demand for scientific personnel by legitimate and important activities in the national interest will continue to increase at least as fast as it did in the past.

It may then be asked whether the training of scientists has demonstrated the same rate of increase since 1941. The answer is that it has not. In the years following 1941, the number of doctorates in the sciences, trained by American universities, sharply and steadily declined until in the years 1945 and 1946 less than a thousand persons were trained to this level annually, or a drop of more than 50 percent from the 1941 total. There was an increase in 1947 to approximately 1,500, and in 1948 the total number of persons trained to the doctorate was approximately 1,700. It will be noted that we have not yet recovered the rate of training of American universities in 1941.

A recent census of American universities, carried out by the Office of Scientific Personnel, indicates that in the school year 1947-48 there were approximately 23,000 graduate students in the sciences in American universities. Of these, however, many will not go beyond the master's level. In the judgment of the faculties of the various universities, about 8,500 of these would be able to achieve a doctorate in the 5-year period beginning in 1948. It does not appear likely, therefore, that the rate of training of persons to the doctorate level will substantially increase beyond the numbers receiving their degrees in 1941 for some little time to come. The average for the decade beginning in 1942 will quite probably be less than the number of persons graduated at the doctorate level in 1941. Training at this level has, therefore, apparently not kept pace with the increased emphasis on research in the United States.

There appear to be two main hurdles which cut off the number of persons who go on to the level of training indicated by their abilities. The first of these is the transition from high school to college. The second is the transition from college to graduate school. In the first case, there is evidence to indicate that there are in the population substantial numbers of persons of high ability who do not have the opportunity to go on to college. From a study of the records of a large sample of persons who have achieved a doctorate in the sciences and an examination of their achievements on various psychological tests, it is possible to gain some idea of the average level of academic aptitude demonstrated by them. It appears to be true that about one-third of the population, at this

level of ability, do not finish college. Presumably this loss of individuals, highly qualified from the point of view of academic aptitude, is in large measure due to inadequate financial support. The numbers of persons in the population, at this high level of ability, is very limited. American civilization can ill afford to lose the contribution these persons can make if afforded the opportunity for training commensurate with their ability. In my opinion, there is definite need for a selective and competitive scholarship program which would provide opportunities for these highly competent people to secure training commensurate with their abilities.

In the transition from college to graduate school, there is good evidence to indicate a loss of competent personnel. In a census conducted by the Office of Scientific Personnel, the heads of scientific departments in the colleges and universities in the United States were asked to indicate the number of persons clearly competent to pursue successfully a career of training to the doctorate level, in the sciences, from among those who have majored in the sciences in their undergraduate curricula. This census indicated that about 25 percent of those who were clearly competent to carry on successful graduate training could not do so for lack of funds. The total number of persons involved in this category is not large, and it would seem to be possible, with an expenditure of relatively small sums of money, to offer fellowships to such individuals in the program. This would undoubtedly return rich dividends.

I would like, therefore, to express strong support particularly for this feature proposed in Science Foundation legislation.

Mr. PRIEST. You feel, Doctor, that the need for fellowships and scholarships is just as urgent if not more urgent today than it has been at any time in the past?

Mr. TRYTEN. Yes. I would add that I think the two places where there are bottlenecks—that is, two hurdles which seem to be very difficult to get over for the student who wants to go on to training—are the hurdles from high school into college and the hurdle from college into graduate school.

Our information shows quite clearly that is where they fail to make the transition.

For example, at the high school and college level we think we have good evidence showing that about one-third of the population has the mental equipment to go on to successful advanced graduate training but does not have the opportunity to go on to college. We are losing one-third of the potentiality at this point. From college into graduate school there is a further sharp cut. It is the transition from college to graduate school which is difficult to make, and that is where we need assistance in assisting the students to bridge that gap.

Our information shows that about 25 percent of the highly qualified college graduates who want to go on to graduate school can not do so for lack of funds.

Mr. PRIEST. Are there any questions, Mr. Sadowski?

Mr. SADOWSKI. No.

Mr. PRIEST. Mr. O'Hara?

Mr. O'HARA. Doctor, you mean the bottleneck is an economic one for the students; is that the situation?

Mr. TRYTEN. Yes. Of course, we do not know in each individual case why they do not go on, but it seems a strong presumption that is the case.

Mr. PRIEST. Mr. Wilson?

Mr. WILSON. How extensive are these scholarships and fellowships being given individually by private funds throughout the country?

Mr. TRYTEN. There are, of course, more and more being given as time goes on. I cannot quote you any statistics on the number, but this figure of 25 percent that I gave of highly qualified college grad-

uates who cannot go on because of lack of funds represents an actual canvass and census which shows the extent of that need.

Mr. WILSON. There is a definite need of funds to accomplish that purpose of fellowships and scholarships in basic research?

Mr. TRYTTEN. In that field, yes, in training for basic research.

Mr. PRIEST. Mr. Bennett?

Mr. BENNETT. No questions.

Mr. PRIEST. Doctor, you have answered the question on the main point. There has been in the past some feeling that, because of the large attendance in colleges and universities as the result of the GI bill of rights, this question of fellowships and scholarships perhaps is not as important as it was 2 or 3 years ago when we began consideration of this National Science Foundation legislation.

Would you have any comment to make on that particular point?

Mr. TRYTTEN. Yes; I would like to make two comments on that.

One of them is this census which is referred to in here, which indicates the number of persons who will be trained to the doctorate level in this 5-year period, beginning in 1948, gives a total which will average less than 2,000 for those 5 years, which is actually less than 1941, indicating that we have not gotten back to the level of training which we had at that time. And it will also show in here that there is a great need to pick up highly qualified people at college level and make the transition to graduate school. The need is demonstrated there.

The second comment I would like to make is this: that I think the high enrollment over the past 2 or 3 years has given an impression which is not quite correct. It is the impression that a greater percentage of people of any given age are going on to college, which is not the case. The Census Bureau has a report which was published in the summer of 1948 which analyzes college population in terms of age. And that analysis shows that the reason for the high enrollment at the present time is not that a larger percentage of any group is going on to college but that the colleges at the present time have persons of a wider span of ages going on to college. In other words, it is the delayed enrollment which is increasing the enrollment in college at the present time; and, when the GI wave gets through, the enrollment is probably going to settle down substantially below what it is at the present time.

Mr. PRIEST. Thank you, Doctor.

Those of us on the committee who have studied this matter rather closely, I think, fully concur with your position and with the statement that you have given on the census and what it shows. But other Members of the House, for instance, who have not had an opportunity to go into this matter as fully as the committee has, ask that question frequently in considering legislation of this sort. I wanted to get into the record your answer and your analysis of it at this point.

Are there any other questions?

Thank you, Doctor.

May the Chair state at this point it will be necessary for the subcommittee to adjourn in 15 minutes. With the conclusion of Dr. Trytten's testimony, that is the final witness scheduled for today. Because of the plane schedules being interrupted, it is possible that a witness is in the room who may be able to make a statement in 15 minutes and who may have to leave town and not be here later.

Mr. WILSON. Mr. Chairman?

Mr. PRIEST. Mr. Wilson.

Mr. WILSON. May I ask to recall the chancellor from Nebraska University. I want to ask him a question.

Mr. PRIEST. Is Dr. Gustavson still present?

Will you take the chair again, Doctor?

Mr. GUSTAVSON. I will be very happy to, sir.

Mr. PRIEST. Mr. Wilson?

STATEMENT OF R. G. GUSTAVSON, CHANCELOR, UNIVERSITY OF NEBRASKA, LINCOLN, NEBR.—Resumed

Mr. WILSON. Doctor, you expressed deep concern about the geographical distribution of the benefits to be derived from the Foundation on the basis of research.

Mr. GUSTAVSON. Yes, sir.

Mr. WILSON. I, too, come from the Middle West. I do know there are many, many men in need of just such aid from the educational standpoint and economic standpoint.

One of the witnesses that followed you, Dr. Dael Wolfe, in his statement, endorses the statement of section 4 (b) of H. R. 12, in that section would be ample protection for a geographical distribution on a proper basis.

Do you agree with that?

Mr. GUSTAVSON. I think experience will have to tell us, Mr. Wilson.

Mr. WILSON. Let me give you the wording of that, if you will.

Mr. GUSTAVSON. Yes, sir.

Mr. WILSON (reading):

In exercise of the authority and discharging of functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research education.

I think that is the statement that Dr. Wolfe was referring to, endorsed as being an ample guaranty or protection for proper geographic distribution of benefits.

Mr. GUSTAVSON. The discussions which we have had in our two organizations have all led us to the conviction that if a definite percentage could have been allocated for geographical distribution the situation would have been better as we see it. We feel, however, that in view of all the discussion which has taken place the probabilities are that the statement you have read will take care of it.

I am speaking there in part from my experience on the Research Advisory Committee of the United States Public Health Service. Here again we were accused in an article in Science of not giving a proper distribution to the funds geographically. We have been very careful since that article appeared and even before that to give a great deal of attention to seeing that research was stimulated in other regions except the eastern and western seaboard. So, I feel that there is a general recognition of this principle, Mr. Wilson, which experience probably will show—at least, I hope it will show—will be adequate.

Although speaking for my two organizations, we would rather have seen a specific percentage allotted in that direction. But we feel that the passage of the bill is far more important, and we would not want to jeopardize that because we feel that basic research for

the reasons that have been given is so important to the United States today, both from the standpoint of the national welfare and national security.

Mr. WILSON. The accomplishment of the intended or expressed purpose in that section would be dependent upon the director and his policies?

Mr. GUSTAVSON. That is right. That is why I said experience will have to answer it.

Mr. PRIEST. Will the gentleman yield?

Mr. WILSON. Yes.

Mr. PRIEST. Is it not true, also, Doctor, that an earlier consideration of this bill, such an arbitrary allocation by percentage was proposed and became the point of such controversy that most of those who were interested in the legislation agreed finally that it would be better to put in this general statement, trusting, as you say, in the Foundation and the director to carry out the intent of Congress rather than saying that 33 $\frac{1}{3}$ percent of this money would be distributed to States on geographical basis?

Mr. GUSTAVSON. That is quite correct, Mr. Chairman.

Mr. PRIEST. We had that up one other time, and as one who has been extremely interested in the legislation, I wish the record to show at this point that I appreciate very much the position taken by you as representative of the land-grant colleges and all of the land-grant colleges in agreeing that in order to get a National Science Foundation bill you will take that portion of it on faith and not insist an arbitrary allocation be made.

Mr. GUSTAVSON. That is right.

Mr. PRIEST. I think it is a very fine attitude, and as chairman of this subcommittee, I appreciate it.

Mr. GUSTAVSON. Thank you, sir.

May I make one more statement?

Mr. PRIEST. Yes, sir.

Mr. GUSTAVSON. The general conclusion of our subcommittee was that we have enough faith in the democratic processes that if this is a mistake we can correct it.

Mr. PRIEST. Mr. Wilson, do you have any other questions?

Mr. WILSON. After all is said and done, there is ample protection in that wording, in your opinion?

Mr. GUSTAVSON. I think so.

Mr. WILSON. That is all, Mr. Chairman.

Mr. PRIEST. Does anyone else have a question?

Thank you, Doctor.

As the Chair stated a moment ago, if there is a witness here who cannot be heard tomorrow who could make a brief statement in the remaining time, the subcommittee would be glad to hear this witness at this time.

Mr. HAMMOND. May I volunteer a statement, Mr. Chairman?

Mr. PRIEST. Yes.

Mr. HAMMOND. It is about the need for scholarships and fellowships. I experience that in a much more direct way than Mr. Trytten does because of the mail that comes to me and my experience in interviewing our students.

A great many of them who have the qualifications to go on for advanced study are not able to do it because of financial limitations.

They are able to squeeze through 4 years and that is the end for them. They have such attractive positions offered them in industry these days they cannot resist the temptation to take them as compared with the hardships they would have to undergo if they were to continue in college. I myself believe that this provision of the bill, which I hope will be law, is perhaps the most important one that it contains.

Thank you.

Mr. PRIEST. Thank you, Dean Hammond.

The subcommittee will stand adjourned until 10 o'clock Monday morning.

(Whereupon, at 11:40 a. m., the committee recessed to reconvene Monday, April 4, 1949, at 10 a. m.)

NATIONAL SCIENCE FOUNDATION

MONDAY, APRIL 4, 1949

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE OF THE COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met, pursuant to adjournment, at 10 a. m., in room 1334, New House Office Building, Hon. J. Percy Priest (chairman of the subcommittee) presiding.

Mr. PRIEST. The subcommittee will come to order. We are meeting this morning for a continuation of hearings on National Science Foundation legislation. Our colleague, the gentleman from New York, Hon. Emanuel Celler, has shown a continuing interest in this legislation from its very inception and has had before this committee each year a bill, and has one of the bills presently under consideration before the committee.

We will be very happy to have you, Mr. Celler, at this time.

STATEMENT OF HON. EMANUEL CELLER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Mr. CELLER. Mr. Chairman and members of this distinguished committee, I appreciate the opportunity of expressing some observations on the subject of the National Science Foundation and beg leave to have a few words to say about some of the provisions of the pending bills.

Science was mobilized during the war under the office of Scientific Research and Development directed by the able Dr. Vannevar Bush. It was this organization of some 5,000 scientists and 10,000 technicians that was responsible for advancing our scientific and technical knowledge 20 years in the 5 years of war. Many of their discoveries in the secret weapon field are now finding useful application in industry and medicine.

The Office of Scientific Research and Development is a wartime agency. It were a pity if the work done by the Office of Scientific Research and Development were to end. It need not end. Therefore, there have been offered a number of bills by myself and others to set up a National Science Foundation to continue the work of the Office of Scientific Research and Development.

This National Science Foundation could be a permanent agency of the Government to promote the progress of science, advance the national health, prosperity, and welfare, and secure the national defense.

The Foundation would conduct basic research and provide a training program for the creation of reservoirs of young scientists.

There are no longer any physical frontiers, but the frontiers of science are still vague intellectual regions, still unconquered. Indeed, that region recedes ever farther and it becomes ever wider as physicists, chemists, and scientists, doctors, and biologists make their new revelations and their new discoveries.

It is rather anomalous that a nation as great as ours has not even found a cure for the common cold, let alone heart disease, arthritis, and cancer.

The story is told about a man who goes to a doctor and the doctor says, "You have a cold. I will tell you what to do. You go outside—it is raining cats and dogs—you take off your coat and your hat and you walk through the rain, and after several hours come back to me." And the patient says, "I will get pneumonia," and the doctor says, "That is exactly what I want you to get, because I can cure pneumonia, but I cannot cure the common cold."

Well, that is a very sad state of affairs.

I read in this morning's New York Times of a gathering of a very great number of people up in New York at the Waldorf-Astoria, and they heard Charles Kettering, a scientist and automotive industrialist, say that 6,000,000 Americans are alive today, but they are all marked for death as a result of cancer. Then he went on to say:

Cancer presents a number of curious paradoxes, such as the fact that biologically it is at the positive extreme of life and growth and is at the same time a widespread cause of death; that the more complete our medical services and the higher our standards of living, the more cancer we seem to develop; that scientists have a relatively great knowledge of the world around us, but have failed to penetrate with equal mastery the unit of man himself, the cell.

Then he goes on to ask: Why is it that 200,000 people amid us must die every year from cancer?

And mayhap, if we pass a National Science Foundation bill and give it the support that it would deserve we might be able, in the not far distant future, to develop a basic cure for that dreadful scourge and the other scourges that harass people and kill so many.

And all this points up the need to give impetus to basic scientific and medical research.

I read a news dispatch of the New York Times yesterday wherein it speaks of a pediatric survey and it shows how many children die every year because of the shocking inadequacy of cure, not only inadequacy of our medical services, but the inability of medical science, to understand all the ramifications of children's diseases, and mayhap, again, some help could be accorded children if we set up a science foundation for basic science that could evolve something that would help children on their way to health.

It must be made clear at the outset that the setting up of a science foundation in nowise interferes with the activities of the Atomic Energy Commission which is set up for a specific purpose, namely, the development and control of fissionable matter and atomic energy. The purposes of the Science Foundation are far broader in scope, and in no way impinges upon the purposes and jurisdiction of the Atomic Energy Commission.

National Science Foundation legislation is urgently needed. Our Nation is today the leading industrial and technological country in

the world, and it has been amply demonstrated that if we are to maintain this position we cannot depend upon philanthropy and purely private resources to promote fundamental science and to provide adequate supply of scientific personnel for agriculture, industry, medicine, defense, and education.

Although we are the leaders in the world in applied science, we do not have the same preeminent position in fundamental sciences. In the past we have depended to a very considerable extent on the great fundamental scientific resources of Germany in particular and a number of other countries, in general. We cannot and should not do so any longer.

If we pass this legislation, we will be providing one of the necessary guaranties that our Nation will always hold a leading place among other nations. If we design the National Science Foundation so that it will bring to us many advances in health and standard of living comparable to the great advances in armament which science brought to the war effort, we will bring to the Nation a great boon.

Now, I feel, by way of commentary on some of the bills offered, that the legislation that will be adopted by this committee should follow the recommendations of the Hoover Commission and the President's Scientific Research Board.

The Hoover Commission pointed out that "the major functions of such a foundation should be"—you will find this quotation taken from the Overseas Administration Federal-State Relations Federal Research report of the Hoover Commission to Congress, March 1949.

The major functions of such a foundation should be (a) to examine the total scientific research effort of the Nation, (b) to assess the proper role of the Federal Government in this effort, (c) to evaluate the division of research effort among the scientific disciplines and among fields of applied research, and (d) to evaluate the key factors that impede the development of an effective national research effort. Based upon its investigations, it should advise the President as to the measures necessary to establish a sound scientific research program for the Nation.

In addition, the Foundation should be given appropriations for the support of basic research and for research fellowships in fields not adequately covered by the research grants and fellowships of other Federal Government agencies.

Then the report goes on to specify the lack of coordination between the researches in various bureaus such as the groups that are mentioned, the Agricultural Research Administration, the Office of Naval Research, the Office of Research and Planning of the Public Health Service, the Research and Development Division of the Department of the Army's General Staff, and so forth, and then the report goes on to speak of the need for over-all coordination, and I quote again from page 48 of the report:

Effort along these lines within individual agencies is not enough. There is need for an organization to facilitate the development of research policy for the Federal Government as a whole.

Then the report goes on to speak of the need for the creation of a National Science Foundation and one of the functions would be to develop this very coordination that the report said is now lacking and is so sorely needed.

Neither the bill that I have offered nor the other bills have provisions covering all these functions that I have just mentioned and which are very succinctly stated to be necessary in that report, and I

would recommend to this committee that it incorporate suitable provisions in any bill that it reports to that end.

As you are aware, we are called upon to vote for many bills appropriating funds for scientific purposes and we do not know whether two or more bills provide funds for the same work. Scientific research is expensive, both in dollars and in manpower. Therefore, there should be some coordinating agency to see that public money is not wasted by needless duplication of effort. This agency must know the total scientific effort in the country in order to recommend a sound program for the Federal Government.

Now I would like to discuss briefly and specifically, three other phases of the subject:

One. The form of administration;

Two. The distribution of funds;

Three. The assignment of patent rights.

The assignment of responsibility for the disbursement of public money to a full-time Federal employee, like the Director, responsible to the President, would make for better administration. Some of the bills still justify many of the objections given by the President in his veto message of August 8, 1947, on S. 526, in that they would—

vest the determination of vital national policies, the expenditure of large public funds, and the administration of important governmental functions in a group of individuals who would be essentially private citizens. The proposed National Science Foundation would be divorced from control by the people to an extent that implies a distinct lack of faith in democratic processes * * *

Full governmental authority and responsibility would be placed in 24 part-time officers whom the President could not effectively hold responsible for proper administration * * *

Gentlemen, I think it is unthinkable that these vast matters concerning the very heart of our Nation be left in the hands of individuals not subject to fullest governmental control.

Now let us look at the second reason why this part-time Foundation should not have the power to approve the disposal of funds. I again quote from the President:

There are other compelling reasons why control over the administration of this law should not be vested in the part-time members of the Foundation. The Foundation would make grants of Federal funds to support scientific research. The recipients of these grants would be determined in the discretion of the Foundation. The qualifications prescribed in the bill for members of the Foundation would insure that most of them would be individuals employed by the institutions eligible for the grants. Thus there is created a conflict of interests which would inevitably give rise to suspicions of favoritism, regardless of the complete integrity of the members of the Foundation. * * *

Adherence to the principle that responsibility for the administration of the law should be vested in full-time officers who can be held accountable will not prevent the Government from utilizing with great advantage the services of eminent scientists who are available only for part-time duty. We have ample evidence of the patriotic and unselfish contributions which such citizens can make to the success of governmental programs. The role to be assigned to such part-time participation, however, is more appropriately one of an advisory nature rather than a full responsibility. In other governmental programs of vast national importance this method is used to obtain advice and recommendations from impartial experts as well as from parties in interest. There is no reason why such a system cannot be incorporated in legislation establishing a National Science Foundation.

I think we must take heed to what the President says in that regard, because if you are going to continue in a new bill the same causes for his objections and his veto, we will simply have our labor for our pains.

There is still a third reason why, in my mind, a Foundation consisting of part-time members is undesirable. The Budget Bureau has indicated that the type of Foundation provided in the bill by the gentleman from Tennessee, the presiding officer this morning, Mr. Priest, H. R. 12, appears workable. But they have not stated that it is the most desirable of the several types proposed. The veto message suggests a type of administration much closer to that given in my bill than in either S. 247 or H. R. 12. It gives us a clear reminder that unless we enact feasible legislation we may as well enact no bill at all. I quote again:

Moreover, the organization prescribed in the bill is so complex and unwieldy that there is grave danger that it would impede rather than promote the Government's effort to encourage scientific research * * *

Apart from the conflicts and confusion which would result from this complex organization, the bill would violate basic principles which make for responsible government. * * *

Can you imagine, gentlemen, a Director appointed by the President by and with the advice and consent of the Senate, who is bound by strict governmental regulations and is responsible to Congress and to the President, yet who must administer policies and distribute funds as determined by part-time members of a Foundation who are not subject to such regulation and such control? These members, however loyal and well meaning they may be, are actually in a position to block with impunity the functioning of the Foundation. If any conflict arises, as it must, the entire machinery of harmonious coordination of research in which the Nation is vitally interested, the granting of funds, the development of scientific talent, would be brought to a jarring standstill until you, or rather, until we, the Members of Congress, would probably again have to step in and reenact the direct-line type of administration which should be done, I think, now, while we are at it.

To enact two sets of authorities, and two allegiances, is to enact none. Indeed it is worse, since it would provide the Nation with a Foundation which would be unequal to the stresses to which it would be subject and which might break down at the very moment of crisis in which its smooth functioning would be most necessary.

It is better to have one man, I believe, in charge of the purse strings, responsible to the President, rather than that the Nation be forced to accept the decisions of a 24—\$50 a day—man board whose tenure is ephemeral and whose primary allegiance may not be to the Government. And these gentlemen may make decisions that would directly or indirectly benefit themselves. They may direct funds to be given in large or small part to the very organizations or institutions of which they are members.

In view of these considerations, it seems to me that there are two courses of action that we can take. One is to adopt the form of administration, at least in its top structure, proposed in the bill that I have offered. This provides for a full time administrator, assisted by an advisory national research board. The other alternative is to utilize, say, the bill introduced by the gentleman from Tennessee, Mr. Priest, but amend it so that the members of the 24-man Foundation recommend, but do not determine, policy and do not have the power to approve disbursement of funds.

In regard to the manner of the distribution of funds, the bill I have offered provides that a portion of the funds be distributed on a geographic and population basis, and I think this is very important; very important for the underdeveloped areas of the country. I am going to repeat that.

One of the bills provides that a portion of the funds be directed on a geographic and population basis. While I do not hold to any definite formula, I do want to see that some of the funds are used to develop scientifically backward parts of the Nation.

I also feel, for example, that the provisions in the bill that I have been so bold as to offer, concerning scholarships and fellowships, is better than some of the other bills. This provision assures that the able youth who happen to live in a region without the best educational opportunities will have an opportunity to become scientists. The provisions in the other bills which award scholarships solely on the basis of ability and without geographic quota will tend to place a premium on ability to develop through better educational facilities. They will thus tend to award scholarships to youth favored with these better educational circumstances and thus concentrate the awards in a few areas.

Now there are two approaches to this particular problem. One requires putting money where you get the maximum research by institutions in certain centers of the country, like New York, Boston, and Chicago. The other extends rather than concentrates, so that the whole Nation should immeasurably benefit. I prefer to have the whole country divided into something like geographic and population quotas for widespread scholarships and fellowships. Should not scientifically undeveloped areas like, say, Oregon, Mississippi, Alabama, and the Mountain States be treated more liberally in that regard? This would be a slower process, but in the long run it would probably be better for the Nation, because the work would not be concentrated in a comparatively few hands. There would be a greater basis for research. We do not know where all the scientific talent exists or lies. Also, in a push-button war, should we not avoid putting all of our eggs in one basket?

Perhaps the two views—one, concentration; the other, distribution for grants and scholarships might well be combined. I do not exactly know. That is a matter that I hope you gentlemen will give mature consideration to. In any event, the bill reported out should have some specific direction in that regard and I do not think that the bills that are before you, even including mine, have sufficient specific direction with reference to that very important subject.

The last point I want to touch upon is the assignment of patent rights. We all know that scientists employed by private organizations assign their rights on patentable discoveries to their employer. Just go to the du Pont Corp. in Delaware; the General Motors in Detroit; go to the General Electric in whatever State it may have its main office—I do not know—and you will find very easily that the result of any research financed and controlled and managed by those entities belong to those entities. There is a recognized principle. Shall Uncle Sam be treated any less favorably than these employers? Patent rights on discoveries financed by the Foundation should be assigned to the public. This basic principle is incorporated, I think, in some of the bills, and they provide for a departure from this prin-

ciple only when it is in the interest of the general welfare, in the interest of national security and national defense. A definite policy is to be followed when such departures are made, with protection against abuse of such departures from such a policy.

Most of the bills do not contain a clear-cut and definite directive on patents.

In fact, I am considerably concerned, and I say this as a lawyer, although not a patent lawyer, that the patent provisions in some of the other bills, including yours, I will say to the chairman, are not definite enough and they should be screwed down and tightened. Otherwise, if you do not, you will have endless litigation, and litigation that may absorb the energies of the Foundation and prevent it from accomplishing its aims. I know your provisions are well intended and they sound good; but I tell you, as a lawyer, that they are not definite enough and that they may give rise to very ambiguous interpretations and a very clever lawyer can twist them to the benefit of his own clients.

We want to avoid litigation. We do not want to get this Foundation, at the inception of its career, involved that way. The work that they are doing is entirely too important to have the members of that Foundation become involved in the courts.

While I feel that the patent provisions that I have suggested should apply to all Government agencies distributing Federal funds for scientific research, and my bill so provides, I think I might be willing to revise my conclusions in that regard and agree that the bill you recommend should have that restriction only applicable to the National Science Foundation.

I think any inventions or discoveries or findings produced in the course of the work of the Foundation, financed by it and developed through it, should be made freely available to the public and if patented be freely dedicated to the public; but I would permit exemptions to this policy of dedication by the Foundation in the public interest when the national security, as I said before, demands it; but then only if the Foundation first finds that the proper research cannot or will not be made without the exemptions from this policy of dedication to the public.

In summary, I would say we all agree on the need for a National Science Foundation. The act establishing it, however, should be broad in scope so that this Nation may have a unified and comprehensive policy on scientific research, basic research. The Foundation should have a sound form of public administration with the responsibility for the disbursal of public funds vested in a full-time officer with a part-time advisory board. Full use should be made of part-time scientific experts in an advisory role. These part-time experts should not have the right to determine policy. Moreover, the Foundation should be directed to expand the Nation's scientific resources by developing the scientifically backward regions or undeveloped regions.

The fruits of the Foundation's research program should accrue to the public who support it.

Thank you very much, Mr. Chairman and gentlemen.

Mr. PRIEST. Mr. Celler, we are always very glad to have you present your views to us. Those of us who have been connected with this legislation in the past know that you have given a great deal of study to it. We know there are some differences of opinion. All of us are working

to the best of our ability to get a workable Science Foundation, and we appreciate very much your views on that.

Are there any questions?

Mr. O'HARA. Mr. Chairman.

Mr. PRIEST. Mr. O'Hara.

Mr. O'HARA. Mr. Celler, I would disagree with you perhaps in part on some of your testimony, but perhaps you and I shall have an opportunity to debate that on the floor; but I certainly agree very thoroughly with some of your ideas pertaining to the patent provision which, as a lawyer not knowing too much about patent law, I think is a very serious question for the committee to consider in the formation of the language of this bill.

Mr. CELLER. I know, as chairman of the Judiciary Committee—and we have now jurisdiction over patents, copyrights, and trademarks—and I can tell you that just a mere word or a comma sometimes causes an awful lot of trouble in the drafting of a bill, and when it comes to something as refined and definite as patents, we must be mighty careful.

Mr. PRIEST. Are there any other questions?

We thank you, Mr. Celler.

Mr. CELLER. Thank you.

Mr. PRIEST. Our next witness will be Dr. Karl T. Compton.

I think we all know who you are, Doctor, but, for the record, will you state your full name and title.

STATEMENT OF KARL T. COMPTON, REPRESENTING THE NATIONAL MILITARY ESTABLISHMENT, WASHINGTON, D. C.

Dr. COMPTON. My name is Karl T. Compton and I am here in three capacities—as representative of the National Military Establishment by designation of the Secretary of Defense, as Chairman of the Research and Development Board which is generally responsible for planning and coordinating military research, and as a citizen with some experience in scientific research as president of the Massachusetts Institute of Technology until last November. I hasten to say that in all three capacities I strongly support the establishment of a National Science Foundation. I should also add that the Departments of the Army, the Navy, and the Air Force support the basic legislation and concur in this statement. In addition, the Bureau of the Budget has advised me that there is no objection to presentation of this statement to you.

Despite the extensive discussion during the past 4 years of legislation for this purpose, I feel that it might be useful briefly to review the essential elements of the agency with which we are concerned, for I have the feeling that there is danger of diversion of attention to extraneous issues. In so doing, it may be less confusing if I refer only to H. R. 2308 and H. R. 12, intending, of course, to include the bills identical with each. However, I should like to exclude H. R. 359 for the time being and discuss it separately.

The need for a scientific foundation rests upon the major requirement in this country with respect to science. This is the dual necessity of supplementing the private resources available for the support of basic research and for the training of scientists and engineers. All other issues which have arisen in the course of consideration of

National Science Foundation legislation, although many are important in themselves, are subordinate to the basic need for a foundation, and within the limit of reasonableness, they should be kept subordinate.

We have in the last 10 years devoted an enormous effort to applied research, and this, although considerably reduced since the war, is still roughly three times the annual effort made before 1939. This effort, together with previous modern advances in the utilization for practical purposes of natural phenomena, is bringing us near the point of diminishing returns. We have literally exhausted the stock pile of fundamental knowledge in many fields.

Further improvements are, of course, possible but significant progress is becoming more and more difficult. I speak now from the point of view of the National Military Establishment concerned with providing for our armed forces equipment and weapons superior to those of any potential enemy, but the same thing applies to other governmental agencies and to industry as well. It is basic research which provides the data and general knowledge for use by those engaged in applied research for particular ends, and neither Government nor industry can maintain substantial technological progress without a steady increase in the quality and scope of this basic knowledge.

Now, available private resources are no longer able to keep basic research out in front of this tremendous advance in applied research. It has become necessary, therefore, for Government to intervene partly because of the sheer size of the problem and partly because of the cost of the complex equipment now necessary to realize significant advances in many areas.

The environment necessary for effective basic research, however, has not materially changed. Basic research still involves an inquiry—a search for information without seeking immediately usable results. This means that the sponsor of basic research must select competent individuals or groups, and refrain from attempting to dominate or direct their inquiries in detail. At the same time, participation by Government in supporting basic research implies responsibility to the source of that support—namely, the people of the United States—for the most effective use of public funds. Both H. R. 12 and H. R. 2308, and they are companions, I believe, achieve a reasonable balance between these two principles. By provision of a large body of scientists, educators, and men of public affairs, they assure that subjects for investigation will be selected with care. By providing a Director appointed by and responsible to the President, they assure that the expenditure of public funds will be in accordance with sound administrative practice and subject to the necessary safeguards.

I should like to dwell a bit more upon the problem of selection of areas for inquiry, and this is the most difficult aspect. As I read these bills, the Science Foundation is intended to keep itself informed of the state of basic research throughout the country and to formulate a national policy with respect to that activity. It is to be expected that the Foundation will refrain from undertaking research in areas which it finds are being adequately supported by other groups or agencies. It would not, therefore, be in competition with other agencies in the support of research. Moreover, the manner in which the Foundation is apparently intended to operate, namely, through grants and

contracts and not by establishment of its own laboratories, would minimize undesirable duplication of basic research. Both H. R. 12 and H. R. 2308 state as objectives that the selection of individuals and groups to perform the research shall be on the basis of a balance between the urgency of securing the most effective results and the need for increasing and strengthening competent research institutions throughout the country.

I fully agree and to me this means that a large part of the Foundation's research funds would be placed with universities in all parts of the country, thereby attracting and keeping competent research scientists as teachers and able students for graduate training. In many cases, however, it will be desirable to utilize the most competent existing research centers, and these will undoubtedly include such highly competent governmental agencies as the Bureau of Standards and the Public Health Service, to take just two examples.

Just as the Science Foundation should not dominate and direct in detail other groups or agencies whether governmental or nongovernmental so it should not be dominated or directed by them. It would receive general directions from the Congress with respect to the scale of its operations. Thereafter it should be free to determine those areas most urgently needing increased emphasis. In this process, it could be expected that the Foundation would be responsive to the needs in fundamental science of the Military Establishment and of other agencies engaged in research for governmental purposes. However, it should not become involved in doing work, particularly applied research work, for another agency except in case of extreme need. All of these aspects seem to be admirably covered in both H. R. 12 and H. R. 2308.

There are many other desirable features of these bills, some of which I should like to mention briefly. Under H. R. 2308, the Foundation is authorized to establish specialized administrative machinery to provide special attention for particular fields. H. R. 12, containing similar provisions, starts the Foundation off with three of these special administrative groups. As to the necessity for these particular groups at this time, there appears to be some difference of opinion. And, I might interpolate, I think there is no difference of opinion regarding the importance of these fields, but difference of opinion as to whether those three should be selected rather than some others.

I suggest, therefore, that this would be an appropriate subject for consideration by the Foundation itself, and if it concluded that these particular special commissions or any of them would be desirable, then the delay in establishing them after study rather than having them in existence at the inception of the Foundation would not be serious. But this is a matter which is peripheral to the basic issue, and it should not in any circumstances be permitted to influence the passage or nonpassage of any of these bills.

Another highly desirable feature is contained in those sections of the bills which relate to international cooperation in scientific research. Research knows no geographical boundaries. The outstanding example of this fact with which you are all familiar is our own atomic bomb which is truly an international development, for it is based on a composite of principles discovered by individuals in most of the countries of Europe as well as in this country. It is through a large number of individuals each contributing something new—some revolu-

tionary and some small advances—that scientific progress is made. Assistance, to the maximum consistent with interests of national defense, to the free interchange of scientific information is in my opinion a very important purpose of the Foundation. But again, it is subsidiary to the main purposes of supplementing available private resources in the support of basic research and the assuring of a continuing supply of adequate numbers of trained scientists.

Effective research, both basic and applied, obviously depends upon men and women soundly grounded in the accumulated learning of the past but with patterns of mental activity firmly established along certain lines. I do not mean a “follow the leader” type pattern, but a pattern of questioning rather than accepting, of constructive imagination and speculation, and of patience to test hypotheses, to encounter failure, and to reconstruct and test again. To equip human beings with this knowledge and these qualities is a long and expensive process. For the academic training of an engineer a minimum of 4 years is generally deemed necessary. For a research scientist it takes 7 to 10 years of training.

In terms of numbers of scientists and engineers, our national requirements are very large indeed and they are increasing rapidly. The costs of education have also increased in the past few years, and the effect of these trends is to increase the spread between those who are financially able to provide for themselves during the training period and the demand for scientists. Moreover, men and women who by nature are suited for scientific work are limited and the incidence of such innate ability bears no necessary relationship to the ability of their ancestors to make money. This latter fact has long been recognized and virtually all educational institutions provide for one or another type of aid to students who are unable to meet the full charge. As in the case of endowment incomes for research relative to costs and the necessary scale of research, private scholarship resources are decreasing relative to tuition and the demands for trained scientists and engineers. Such individuals are truly a national resource, and it seems to me that increasing this resource is a proper function of government. All of the bills before you appear to me to provide a workable organization to assume this public responsibility and to carry it out effectively and economically.

Although some of my remarks have been applicable to H. R. 359 as well as to H. R. 12 and H. R. 2308, I have tried to keep this bill separate from the other two, for although it contains the same basic objectives, it is in my opinion subject to disadvantages not present in the others. It was a compromise worked out 4 years ago. In the intervening years the discussion has tended to unify and concentrate opinion in the direction of H. R. 12 and H. R. 2308. I believe that these bills now represent the views of the vast bulk of all those who have devoted time and thought to the best possible means of safely providing Government support to basic research and education.

I earnestly recommend that you gentlemen act favorably on one of them, and I make this recommendation for I believe that you are the most competent people to reconcile the differences between them.

Mr. PRIEST. Thank you, Dr. Compton. It is always a real pleasure for this committee to have your testimony.

Are there any questions? Mr. O'Hara?

Mr. O'HARA. Dr. Compton, it has been a relatively short span of 4 years since a National Science Foundation bill was first proposed, and it may be a good thing from the political end to have had this discussion that we have had. Doesn't that prove so in the matter of the consideration of this legislation?

Dr. COMPTON. Yes, sir; it does. We have had some experience. For example, when the first National Science Foundation bill was proposed, just about the time of the end of the war, we did not then have set up in the Military Establishment any organized plan for coordinating military research and development and consequently it was highly desirable at that time in the National Science Foundation bill to incorporate a Division on National Defense. Now the Congress has set up the Research and Development Board. Consequently, the situation has changed in that respect. In other respects also it has changed.

Mr. O'HARA. Do you feel that in consideration of this legislation further consideration should be given to the overlapping of these many agencies that are dealing in the subject of research, or do you feel that science progresses better without too much control? What is your feeling about that?

Dr. COMPTON. I certainly feel the latter, Mr. O'Hara, that basic science particularly can stand quite a lot of duplication. I know that from my own background, where I have worked on problems that in title and subject matter were identical with those of quite a number of other workers in the field at the same time. We often came out with different answers or different in one respect or another. If there had been an attempt at the basic research level to say, "If one man is working on this thing, we won't let a second man work on it," progress would have been tremendously slowed up and made more uncertain. Of course, there is need for coordination, and when you get to applied research, the kinds of things that an engineering firm can sit down and work out on a drawing board making use of the basic knowledge and well-tested methods of design, then the need of duplication or the justification for duplication is very, very much less.

As regards coordination, it seems to me personally that it would be a mistake to try to incorporate responsibility for coordination in any one bill, because that would seem to me to be a function of the Executive Office of the President and as I understand it, there is a coordinating committee which has been established that looks over the other research agencies and would look over this.

Mr. O'HARA. Doctor, there has been a problem of policy in this set up here as to who is going to run the show, the Director or the Science Foundation, which has troubled me somewhat. Might I state that in talking to some of the scientists, which conversations of course have been very small in number compared to the intimate knowledge you have of their feelings, I find some of them are quite resentful, some that I have talked to, toward the Government's directing their research and activities. They are very sensitive about it and feel very strongly about it. I am asking you a double-barreled question. Let me ask you first, should the Foundation run the show or should the Director run the show?

Secondly, to what extent would be the effect of the Foundation or the Director, whichever directs, upon the scientists of the country

having in mind the necessity of their wholehearted cooperation in doing these many things which are contemplated in such a bill?

Dr. COMPTON. I will try to answer those questions briefly and then amplify just a bit.

I believe the Foundation should run the show as far as basic policies and scientific objectives are concerned, the Director being an executive officer to carry out those policies but having one additional function which I think is important, having the veto power over any action which is contrary to Government administrative policy. In that sense he would safeguard the executive branch of the Government.

There are many scientists, I think I can almost say a majority of scientists and maybe a very large majority, who are very much worried about this science foundation bill, for fear that it may be strait jacket science, or that it may be misused. Perhaps I shouldn't say this, but they are afraid it would get into politics. It has been pretty free of that. I think they have enough faith in the way in which things have been handled during the war that that will not happen and their faith will be supported by the fact of having this large board of men who presumably will be distinguished scientists and men of public affairs. Any director of the Foundation I think would find himself in a very difficult position if he acted in such manner as to bring about a condemnation by that board of 24 men. So I think the scientists feel that with this large board appointed by the President after consideration of recommendations of such scientific agencies and other public groups as wish to make recommendations for personnel, they would have a good assurance against the things that they fear, and if those things that they fear continue to be protected against, then I think they are all for this bill.

So personally I believe the bill is wisely drawn.

Mr. O'HARA. One other question, Doctor, and that will complete the questions I had in mind. That relates to the problem of the distribution of scholarships. Do you feel that that should be done on something of a geographic basis, regardless? You have the very nebulous proposition as to who develops the most scientists. Sometimes I am rather confused myself. There is a genius here and there in some little school, and it is remarkable. Do you feel that the bill provides well in the matter of scholarships a fair distribution throughout the geographic sections of the country?

Dr. COMPTON. I listened with much interest to Mr. Celler's testimony on that point, and I wholeheartedly agreed with his objective. However, I do not believe that it would be either necessary or wise to try to spell that out in detail in the bill. I think any sensible, reasonable foundation or director would see that that is done.

But I might support that by a little back testimony because I had about 10 years' experience as a member of the National Research Fellowship Board operated by the National Research Council with funds from the Rockefeller Foundation, through the years of the 1920's. I served on the board for physics, mathematics, and chemistry. There the objective was to pick postgraduate students on the basis of their promise. That was the sole objective. There was no consideration given geographical distribution at all. As a matter of fact, however, the geographical distribution was just as perfect as Mr. Celler or anyone else could have desired.

In long experience I found wide distribution of talent in the State that Mr. Celler indicated as one of the possible backward areas, which was Oregon, where I started my teaching career, and then at Princeton and then at MIT. It has been interesting to see what a large proportion of the excellent postgraduate students have come from small colleges, many of them colleges that you seldom hear of, other ones that you do hear of. But the great potential resource of scientists is spread all over the country, and there is just no question about that. There are little colleges in Ohio, Oregon, Indiana, all over the place. Any scholarship scheme that is set up would just have to recognize that.

Personally, I think if I were right now given the job of saying how this would operate, I would make the suggestion that the scholarships would be handled in two ways. Perhaps the most advanced scholarships or postgraduate or even postdoctorate fellowships would be awarded to men selected on their merit and the men would be given the opportunity to go to whatever institution or research laboratory they wished to go to carry out the objectives of their research. Have part of it in that way. That is the way those national research fellowships were handled. Then another part of the fund might be allocated to institutions in order that they could offer scholarships and attract men to the institutions and in that way increase their drawing power. That would be one feasible way of operating, but I think the Foundation itself should have the privilege of working out the system that it thinks will have the best over-all result. I think you have to have both area and concentration considered in that.

Mr. PRIEST. Mr. Wilson?

Mr. WILSON. No questions.

Mr. PRIEST. Mr. Dolliver is not a member of this subcommittee, but he is a very interested member of the full committee, in this legislation, and he has indicated he has a question or two he would like to ask and we are happy to have him with us. Mr. Dolliver.

Mr. DOLLIVER. Thank you, Mr. Chairman.

Dr. Compton, I have a question to which I think I know your answer, yet I feel it should be a part of the record in this inquiry about the National Science Foundation.

There have been some people who have expressed apprehensions about the possibility of the Government's becoming dominant in the field of scientific research, and they base their apprehension upon what happened in Germany during the Nazi regime when the Nazis came into control of education, medicine, and all other activities relating to science. Recently I read a short brochure upon the subject of how the nationalization of medical science in Germany brought about ultimately the idea of experimentation upon human beings and ultimately to the horrors of Dachau and Buchenwald.

I wish you would comment upon that subject, Dr. Compton, and give us your ideas of the distinction which exists between this situation and the one which we know grew up in Germany.

Dr. COMPTON. It seems to me that the danger in Germany arose not because of Government support of science, but from a difference of the attitude of the people toward government and leadership, combined with the onset of the ideology which was the Nazi development. I just have enough faith in the people of America not to be led around by the nose by any leader. I don't believe we are in danger of that.

If we should by any misfortune go down that road, I don't think this National Science Foundation legislation will either help it or stop it. I think that the basic issue is the character and the ideals of the American people, and I have confidence enough to think that we are going to come through all right.

MR. DOLLIVER. As I said in asking the question, I knew what the answer would be. So is it fair to say that as far as you are concerned, you have no apprehension that this is a step in the direction toward nationalization of science or any branch thereof?

DR. COMPTON. No, sir; I have no such fear.

MR. DOLLIVER. Thank you, Dr. Compton, and thank you, Mr. Chairman.

MR. PRIEST. Mr. Sadowski?

MR. SADOWSKI. I have listened to these hearings for the last several years on this matter of the National Science Foundation, and I am still puzzled about these two things: One is the question which was raised by Mr. O'Hara and which has been pretty well answered by you, Doctor. The other is the one of patents. Those are the two questions that still bother me. I agree with you and the rest of the people interested in this work that there is no doubt that some aid and assistance must be given to further the basic science program. From private sources, money is not available in the amounts necessary to carry on the program properly. As the Federal funds are made available for this purpose, a different situation arises than where private funds become available. If I have a lot of money, if I were Mr. Rockefeller and I wanted to give to this institution or to that institution, to my favorite institution, if I want to give my money, that is my business. That is the way things have been done, and in many instances those who had the best promoters connected with their institutions were able to get the most money. Other institutions that did not have such good salesmen or promoters didn't get as much money. So, when we dish out Federal funds, the important thing is to see that it does not become a grab bag for a few of these specialists in the field of picking up dollars.

I wouldn't want to think that eminent doctors and great educational leaders would be tempted to dig into the grab bag for everything they could get for their own favored institution, but somehow in the back of my head I have the fear that perhaps that might happen, for the sake of old alma mater and things like that. You know that goes deep in folks, and even though they become great doctors they have a feeling of greater sympathy for one institution as against another.

As I see it, I would not want to see too much Federal control over the Foundation as far as its work is concerned, but I am of the opinion that there must be some pretty definite control and some pretty definite rules set up as far as the distribution of the funds is concerned. That should not be left entirely to the 24 directors and then always to have it subject to argument between them and the manager or director who is set up for the board. It ought to be spelled out quite clearly as to how these funds will be distributed.

Don't you agree that that is correct?

DR. COMPTON. Sir, I agree that the objectives that you have in mind should be secured. I do not believe that this can all be spelled out wisely in the authorizing legislation. May I come back to that in

just a moment and explain why I feel that, but before doing so, there is an additional check that the Congress has on this, because every year there will be an appropriation bill that comes up, and if Congress does not feel that there has been proper area distribution or proper handling of inventions or something of that sort, there is always a chance annually to make a check on the basis of the report of the Foundation and the handling of the funds.

Mr. O'HARA. May I suggest, Doctor, we would also receive word from the folks back home if they feel there hadn't been.

Mr. SADOWSKI. In order to avoid pressure from back home, maybe we could do something to stop all this undesirable reaction by spelling it out more clearly in the bill as to how these funds are to be distributed.

Dr. COMPTON. You asked specifically about the patents. I have struggled a long time with patent problems, starting when I came to MIT. We tried to work out a patent policy for our institution. Then I made a study for the National Academy of Sciences, where I happened to be chairman of a committee for the purpose as to how the National Academy of Sciences, as an institution under congressional charter, should handle any inventions that are made under grants, made from funds of the National Academy of Sciences. Incidentally, the young man who was my assistant on both those studies is Carroll Wilson, now the General Manager of the Atomic Energy Commission. During the war I did not have the responsibility; Dr. Bush had the responsibility of handling those things in the Office of Scientific Research and Development, but I saw some of the problems there. The thing that impressed me in all that experience was the great diversity of situations which arise and the danger of having a hard and fast rule, because the next one that comes up doesn't fit that rule, for what appear to be very good reasons. As far as I know, all of us who have worked in that field have come to the conclusion that if you set forward an objective, a basic objective which is to handle the patent in a way that would be of greatest benefit to the public and then handle the situation that arises to work that thing out, you have a safer situation than if you tried to set down rigid rules. Of course, in that process of doing that, you do naturally come out with certain patterns to fit certain cases. I don't know whether you want me to go into details of examples to describe some of the kinds of situations that you run into, but I will do that if you wish.

Mr. SADOWSKI. Give us one or two examples.

Dr. COMPTON. Suppose you make a grant to support some line of research to an individual who is a member of an organization that has a long background of research and development in that field and this man makes an invention, it is likely to be something which is an outgrowth—perhaps an advance in some special feature of the big background that has been developed in the past. If that man is required to dedicate that particular invention that he makes there to the public, it may make it impossible to handle in a way to bring into production a whole background of things that have gone before. You may find in industrial organizations—I don't think it would be true very often in universities—that with a rigid patent clause men would not feel justified or feel it safe to take a grant for research.

Another thing: When you come to dedication to the public, which sounds fine and is the ideal thing you would like to do, very often the

invention is only part way toward the stage of putting the thing into use and so made available to the public. The only way the invention benefits the public is having it made available to the public at a reasonable cost. There usually has to be some development work, some production methods developed and an introduction campaign to get the public acquainted with it. Unless some organization has some incentive to do that, it won't spend the money to do it, and that is where the greater sums of money are spent—not in making the invention, but in getting the thing ready for production and for sale.

Mr. SADOWSKI. In other words, you fear if it were made available to everybody for all industry, then no one would go into it and expand and develop it.

Dr. COMPTON. In some cases that is true. In the first place, I think nonexclusive licensing probably should be a rather basic principle in this thing, so that you don't have monopoly. But within that principle you have to do some things that will bring these devices into use where they wouldn't otherwise. For example, you can say to XYZ Company, which is very much interested in this thing and competent, "Somebody has to do some development work on this before it can be put into use. While we hold to the principle of nonexclusive licensing, we will give you a license without royalty, without the necessity of paying any royalty." Or we may say, "We will give you a license which will be exclusive for a period of 3 years to get this thing started, so you can put your money and effort into this thing, and after that it will be free and open. But you get a little advantage of a head start for the money and effort you have put in."

That is just one way. In some cases that thing works. In other cases some different method can be used.

Mr. O'HARA. Will you permit me to ask a question? That is the patent problems that worries me.

Dr. COMPTON. Yes, sir.

Mr. O'HARA. Here we have this great Foundation which develops thousands of patents, we will say. Here is an investor who wants to invest millions of dollars into development along certain lines. If that company will have to hire some patent lawyers and a group of scientists to determine whether, if they went into that manufacture or development of that particular line of industry, they would immediately run into numerous patents which the Foundation has developed and which would stifle that industry. That is a very grave problem, I think, that my colleague has brought up here, of what to do about that subject. If you make the Foundation, doctor, a licensing proposition, then it may become one of the greatest monopolies we have created by legislative act.

Dr. COMPTON. When I was speaking of the licensing I had in mind the problem at MIT, which, of course, was a very much smaller thing. We turn our things over to a research corporation in New York City which is chartered as a nonprofit organization to handle patents. That is a much smaller proposition than yours, and I recognize that. The only thing I was trying to point out is that the number—and as you, as a lawyer, know far better than I do, of kinds of situations that you can run into are very great indeed. Let me give you another example. The National Academy of Sciences has had a policy for a long time that it dedicates all patents to the public. Perhaps they

go even further than that. I believe that they don't take out patents or didn't for a long time, at least on medical discoveries. Under one of the fellowships of the National Academy of Sciences there was developed some drug that was useful in the treatment of syphilis. That was freely disclosed and dedicated to the public. There was later imported from one of the European countries some of that drug which was not properly controlled as to purity, and it was dangerous, at least believed to be dangerous by the medical profession. Who had the responsibility then for dealing with that particular case to insure control? If there had been a patent assigned to some agency that was responsible, that situation could have been handled, but mere dedication to the public, just that gesture alone, didn't handle that situation.

I think perhaps I am not competent to discuss those aspects of the problem except that I did see that during the war in the OSRD, without a restrictive patent policy, but simply with the single principle that things should be handled in the best interests of the public, there was worked out a procedure that apparently worked fairly satisfactorily, and of which I happen to be the residuary legatee at the moment in finally settling the penicillin patents as between certain foreign interests and ourselves.

Mr. Brown, who is our counsel, who works on those things, is here, and he would be glad, I am sure, to expand on that, if you wish.

The only thing that I fear, and this is not speaking as an expert but as one who has been fairly close to a good many of these problems, is that a simple dedication to the public, just that one phase, while it sounds nice, is not adequate to handle the kinds of situations that we have. I would rather see the Foundation given the privilege, with competent patent counsel's advice and experience, of working out its policies.

Mr. SADOWSKI. I think, doctor, that none of us should fear a monopoly in patents in the Science Foundation or the Government if the purpose of that monopoly would be to give widespread use of the inventions to people generally. In other words, even though you have a great control over patents, suppose this Foundation has a great control over patents and new discoveries, but if they are made available to the public generally to be used to the fullest extent, then it is a good monopoly in that respect. The kind of monopoly I would fear is the kind that would get hold of these things and then not permit them to go out to the general public or so to take control over a particular industry that they would stifle all other industries in that particular field.

Dr. COMPTON. The thing should be handled so that you get the quickest and most complete and cheapest access of the public to any results.

There is one thing I would like to say, though, before leaving this that this Foundation is primarily aimed at fundamental basic research, and I think in the minds of the general public the importance of patents in that thing is greatly exaggerated. I am perhaps not a very inventive person, but I have published upward of 100 scientific papers, in the field of electronics mostly, and spectroscopy, and so forth. Before I went to MIT I was a consultant for nearly 10 years with the General Electric Co. I never took out a patent, never thought of taking out a patent. I think up until rather recently I couldn't have named a half dozen of my scientific acquaintances

over the country that as far as I know had ever taken out a patent or ever were interested in taking out a patent. So, I think the thing is very much exaggerated.

To be sure, out of the work a lot of these scientists do there are discoveries made which some skillful inventive person can put together and produce a patentable invention, and I think that the public certainly should be properly protected. But I do think that the patents in this thing are very, very small in importance in comparison to the advantage of building up this great stock pile of fundamental scientific knowledge and of trained scientists. That is the great objective. I would hate to see the uncertainties over the handling of patents prejudice the reaching of that objective which is much the more important thing, I believe, to the public.

Mr. PRIEST. Mr. Wilson?

Mr. WILSON. At the risk of prolonging this unnecessarily, Dr. Compton, I want to read a very short paragraph that I have read in Dr. Bush's *Science: The Endless Frontier* on patent policy and ask you the question after I have read it whether or not it is sound, on the very subject you are talking about, the policy which relates to this broad subject.

PATENT POLICY

The success of the National Research Foundation in promoting scientific research in this country will depend to a very large degree upon the cooperation of organizations outside the Government. In making contracts with or grants to such organizations, the Foundation should protect the public interest adequately and at the same time leave the cooperating organization with adequate freedom and incentive to conduct scientific research. The public interest will normally be adequately protected if the Government receives a royalty-free license for governmental purposes under any patent resulting from work financed by the Foundation. There should be no obligation on the research institution to patent discoveries made as a result of support from the Foundation. There should certainly not be any absolute requirement that all rights in such discoveries be assigned to the Government, but it should be left to the discretion of the Director and the interested division whether in special cases the public interest requires such an assignment. Legislation on this point should leave to the members of the Foundation discretion as to its patent policy in order that patent arrangements may be adjusted as circumstances and the public interest require.

What do you feel about that as being sound policy on this patent angle?

Dr. COMPTON. That I believe would be sound policy; yes, sir.

Mr. WILSON. To leave it to the discretion of the Director?

Dr. COMPTON. And the Foundation; yes, sir.

Mr. WILSON. Not with an absolute requirement of assignment in all cases.

Dr. COMPTON. No. Because, as I say, I think the types are too complex to make that possible, and I believe in the bills there is a clear statement of objectives, and I think that objective ought to be sought. In many cases of important scientific discoveries, the great majority of cases, I think, there would be no point in a patent at all. Take, for example, development of the field of electronics. For 100 years there had been discoveries of one sort or another in the field of electronics, and then along about 1906, or whatever it was, Flemming came along and invented the so-called Flemming valve, and then DeForest came along a few years later and invented the three-electrode tube, and then we were off in electronics; but the whole background of scientific

discoveries that preceded that dealt with things which did not have any practical objective that could be seen at the time, and yet those are the kind of things you have to build up until you can get to the point where the common knowledge of a lot of things of that sort has, we will say, prepared the ground for specific inventions and promotion.

That is what I think most of the work of this Foundation will be, not all, and there will be some cases certainly that will come up where there must be skillful handling of the patents. It seems to me that in the hands of skilled persons, which would include people of patent experience on the legal side and inventing and industrial experience, there could be worked out a program that will give the public the advantage of that thing as cheaply and as quickly as possible, and you would have what you want.

I am afraid that just a simple statement dedicating it to the public will not always achieve that. That is the reason I would prefer to see the objective stated rather than the method.

Mr. PRIEST. Are there any further questions?

Dr. Compton, we are indeed grateful to you for your patience and your very fine presentation to this subcommittee.

Dr. COMPTON. Thank you.

Mr. PRIEST. May the Chair state at this point that we have several witnesses here. It is the hope of the subcommittee that we can conclude these hearings today with the exception of one morning session on April 26, at which time representatives of the National Patent Council will be heard. In assisting the subcommittee to proceed with expedition, if there are portions of prepared statements that witnesses may be able to brief in their presentation but include completely in the record, it will be appreciated.

The committee will next hear Mr. Harold J. Kinney of St. Paul, Minn. Mr. Kinney.

May the Chair state before Mr. Kinney starts that we hope to hear Commissioner Kingsland, Mr. Kirkpatrick, and our former colleague, Mr. Lanham, before we have concluded, unless there is a roll call which may come shortly after the House meets; but we will proceed to the best of our ability to hear all witnesses who are here this morning.

STATEMENT OF HAROLD J. KINNEY, ATTORNEY AT LAW, ST. PAUL, MINN.

Mr. KINNEY. My name is Harold J. Kinney. I am a lawyer, practicing in St. Paul, Minn. I have been engaged with patents, specializing in patents, since the year 1930. Prior to my study of law, I received a degree in chemical engineering from the University of Wisconsin. I am patent counsel for the Minnesota Mining & Manufacturing Co. in St. Paul.

The purpose of my coming here today is to give the views of myself and a number of others on one important aspect of the National Science Foundation bill (H. R. 12) and the similar provisions of the Senate bill (S. 247).

As much as I know about the bill as a whole, I think I favor a National Science Foundation bill. I think we should proceed ahead cautiously and see how the experiment works over a period of a few years; so I think I should say I am in favor of an appropriate National

Science Foundation bill. But I am going to direct my remarks specifically to the patent section.

In the Senate bill that was section 11. In H. R. 12, it is section 12. The whole section is of course pertinent, but I call your attention to the last sentence of subsection (b), which authorizes the assigning of application for a patent not only to the Government but also to any nominee of the Government in accordance with such rules and regulations as the Director may establish.

I also refer to subsection (e) of the preceding section, which empowers the Foundation to acquire by purchase, lease, and so forth, personal property of all kinds necessary for or resulting from scientific research. It also authorizes the disposal by sale or lease of such property.

Patent rights are, of course, a species of personal property. It is therefore clear that the Foundation would be authorized to acquire patents by paying out sums of money or by other means; and, once having acquired patents, the Foundation may sell any of them to whomsoever it chooses, or it may grant licenses under any of them to whomsoever it chooses, and it may withhold the granting of patent rights to others.

I think that is clear according to the terms of the bill.

I think it is apparent that the act would thus leave at the discretion of the governing body of the Foundation, whoever that might be, a policy which might be regarded by some as one of unfair discrimination and favoritism with respect to granting of patent rights. If such a policy as that occurred, the public reaction would be obvious.

I am going to turn immediately to what I regard as my principal theme: Why should there be any provision at all for the Foundation to own patents? Preliminarily, let us say, what is the nature of a patent right? It grants no affirmative right whatsoever. It simply grants a right to exclude others for a limited time using what is covered by the patent.

If patent rights are to be owned and enforced by the Foundation, then presumably it will be a policy of the Government to exclude those that it does not desire to have use the patents, or what is covered by them.

I do not think that the United States Government, acting through the Patent Office, should adopt a policy of granting patents to itself, acting through the National Science Foundation. There has never been any ruling by the Supreme Court of the United States nor, I believe, by any other court, in support of the ownership of letters patent on inventions by the United States Government or one of its bureaus or agents. There has, however, been at least one decision of the Supreme Court which throws some light on the question, and you gentlemen may be familiar with the case of *United States v. Dubilier Condenser Corp.* (289 U. S. 178), which was decided by the Supreme Court on April 10, 1933. The suit was instituted by the United States in the district court for Delaware, asking for a declaration that Dubilier Condenser Corp., exclusive licensees under three separate patents to two employees of the Bureau of Standards, was a trustee for the United States in respect to such patents and, as such, required to assign to the United States all of its right, title, and interest in the patents.

The district court dismissed the action, and that judgment was affirmed by the Third Circuit Court of Appeals and by the Supreme Court. The case did not attempt to decide that Dubilier had any rights in those patents which could be enforced against the United States, and my personal viewpoint is that it did not. Further, the actions did not require a decision as to whether Dubilier had rights which could be enforced against anyone, but simply whether the Government owned the patents and could compel an assignment to it. On this issue Chief Justice Hughes, though disagreeing with the reasoning of the majority opinion—the majority decided that the suit should be dismissed—Chief Justice Hughes stated:

As the people of the United States should have the unrestricted benefit of the inventions in such a case, I think that the appropriate remedy would be to cancel the patents.

You will notice that this dissenting reason does not at all suggest that the Chief Justice thought that the United States Government should be able to own and enforce patents.

In its original majority opinion the Court had included a paragraph which began—

Moreover, no court could, however clear the proof of such a contract, order the execution of an assignment.

The Court went on to indicate that no statutory authority exists for the transfer of a patent to any department or officer of the Government. The Court might have gone on to add that a very serious constitutional question would be raised if the Congress attempted to provide statutory authority for such a transfer of patent to a department or officer of the Government.

The foregoing sentence and two others from the Dubilier opinion were deleted by the order of the Court a month or so later, and presumably for the reason that the Dubilier case did not require the Court to decide the basic question of whether the United States Government could ever own a United States patent. I agree that such a question should not be decided off the cuff, so to speak, but when it is decided I think the decision should be and must be that the Government may not own its own patent grants.

At that time, namely, in the year 1933, various departments or officers of the Government, such as the Secretary of Agriculture and the Department of the Interior, had various patents which were ostensibly assigned to them. Undoubtedly counsel for the Government persuaded the Court that it should not in effect prejudge the status of these patents without a hearing where it was not necessary to decide that point in order to decide the Dubilier case.

I know of only one instance in the past where the Congress has ostensibly authorized a department of the Government to own patents, and that is a rather casual provision in the bill creating the Tennessee Valley Authority. That has never been litigated, and if it were, I think it would undoubtedly be held unconstitutional.

Many others besides myself have questioned the policy of the Government going into the business of owning its own patents grants.

The National Patent Planning Commission, some 3 years ago, stated:

The ownership of a patent by the Government is somewhat anomalous * * *. Commercial and industrial interests in the protection of an operating business or in recovering investment costs requires the exclusive right conferred by a

patent, but the Government, not operating a business, has no need for this kind of protection.

One of my friends, a patent lawyer in Minneapolis, has recently written to me saying:

If this bill attempts to give the Government the right to assign, license, or otherwise deal with patents on a selective basis, then I certainly am against it. It is my opinion when a patent is assigned to the Government, a merger is effected, so that legally the patent no longer exists.

Another friend, a patent lawyer in St. Paul, has written to me recently indicating that he agrees with my point of view that it is a perversion of our patent system for the Government to attempt to make itself the beneficiary of its own patent grants on inventions.

I have talked to and communicated with perhaps two dozen or so lawyers who have had familiarity with patents, and there is no one of them who has indicated that he feels that the Government has any constitutional power to own a patent on an invention where the patent has been granted by itself, or that it would be good policy for the Congress to attempt to invest the Government with such power.

In an address given in December 1945 by Bruce Brown, then vice president in charge of development of Standard Oil of Indiana, stated:

If there is attached to any plan for a national research foundation any provision in respect to Government patent policy which has as its objective the ownership by Government of as many patents as possible, the effect on any future war production program involving industry-Government cooperation would be appalling.

At another point, observing that Dr. Vannevar Bush's proposal for a research foundation was based upon the need for nurturing basic research as distinguished from applied research, Mr. Brown observed that in such a field patents are relatively unimportant for the obvious reason that it is almost impossible to see how truly basic research could lead to patents. That latter is my own observation.

To argue for sweeping powers on patents such as are contained in the Senate bill on the one hand, and at the same time to maintain that the Government intends to confine itself to basic research and not allow its efforts to slop over to a very considerable extent into applied research, is contradictory. It is very contradictory. One would almost be suspicious of those two seemingly contradictory provisions.

At another point in his address Mr. Brown observed that the plan to nurture basic science is to subsidize projects of basic research at universities and colleges. He observes that if such subsidies are coupled with a legal demand that they, the universities and colleges, turn over any patentable inventions that happen to evolve in a program for which they receive some, but only a part, Federal subsidy is certainly a demand that the tail wag the dog. If the Federal Government, Mr. Brown says, attempts to set uniform rules for all universities, our universities will turn into uniformities.

I wonder what the Congress understands by the term "basic research" as used in the bill, which is a term clearly to be distinguished from applied research. On December 3, 1948, Dr. Robert Millikan, who, as you know, is of the California Institute of Technology, outlined some of the great pieces of research in the past, which are in a sense the parent, or surely the antecedent, of many of our wonderful creations of the present time. For example:

1. The discovery of the laws of force and motion in the fifteenth century was a requisite to the design of power machines of every sort that have come along since.

2. The discovery of the laws of thermodynamics during the century following the revolutionary war were fundamental to the internal combustion engine which in turn was necessary to the airplane.

3. The basic discoveries in respect to electronics discharge in high vacua were necessary antecedents to our entire development in the radio art.

4. The discoveries which led to the wave theory of light in the first half of the nineteenth century and the development of the electromagnetic theory during the decade or two following the War between the States were necessary antecedents of many developments which already have come about and probably of many more yet to come.

Presumably it is or should be this sort of thing that the Congress has in mind by the term "basic research" in the National Science Foundation bill, and if it is, then there should be no concern to include a patent section.

What are some of the projects of basic research that are going on at the present time? The following surely are some examples:

1. Studies on nuclear physics and chemistry, in which the University of Chicago's Institute for Nuclear Studies is outstanding.

2. Studies on the causes and nature of cancer.

3. Studies on the causes of heart disease.

4. Studies on the kinetics of the formation of polymers, including rates of reaction and so forth, in which studies at the University of Illinois are important.

5. Studies on the physical nature of polymers, including the determination of shapes of polymers and such like which are going on at Cornell, Brooklyn Polytech, Minnesota, and other institutions.

If the purposes of the Foundation are kept to basic research, there is not much need for patents anyhow—even if we would look at the Government as a private corporation.

I would have some suggestions, but I am inclined to leave them out here. If the Congress thought there should be some depository for inventions that might be evolved, so that the Government could keep them secret for a while and after a while publish them and have them speak as of their filing date, that could be very easily accomplished by an amendment of the patent laws.

In conclusion, I want to say that I fear for our American patent system, which has done so much to advance this country industrially, if the United States takes on the role of a super-patent-holding company. If many millions or perhaps a few billions of public funds are spent by the Foundation annually, a sizeable amount of it to acquire patents, what private business enterprise standing alone would gamble its money and energies against such a state monopoly?

I think it would be better to abolish the patent laws than to emasculate them, and I think it would be emasculating them if the Congress set up a machinery so that the Government would get to be the owner and manipulator of thousands of patents.

That concludes my prepared statement.

Mr. PRIEST. Thank you, Mr. Kinney.

Any questions?

Mr. O'HARA. Mr. Kinney, I don't know whether any member of the committee is a patent lawyer. I rather doubt it. I certainly am not. I have been very troubled about what little I know about patent law and the effect of this bill. You have just added to my concern over the very problem that you know well and have so ably discussed. I presume that, as a patent lawyer, you approach it first on the principle and fundamental theory that constitutionally the Government has no right to own a patent. Is that the principle?

Mr. KINNEY. Yes. I do not think the Government should become the beneficiary of its own patent grants. I don't think that was ever the original intention. I think that that would be a very topsy-turvy arrangement.

Mr. O'HARA. Under that theory, if your company were to go out and expect to invest some considerable amount of money in the development of some industrial patents, they would be compelled, assuming this bill becomes law, to make a search of all these various patents that would come out of the Foundation, which would require patent lawyers and scientists of all kinds, would it not?

Mr. KINNEY. That is right.

Mr. O'HARA. How much would that run into in money alone?

Mr. KINNEY. A corporation like Minnesota Mining & Manufacturing Co. could probably afford to spend a lot of thousands of dollars investigating something, and so could much bigger corporations like General Electric. But as far as the small groups, take a group of men who perhaps have one hundred or two hundred thousand dollars that they can muster for a gamble on a development, that would be much too big-time stuff for them to wrestle with.

Mr. O'HARA. What would you suggest as an answer in this bill, Mr. Kinney, to meet this problem?

Mr. KINNEY. I think that the patent section should be deleted entirely. I think sometime, by appropriate amendment to the patent laws, the Congress should say when the Government acquires title to a patent, the patent thereby becomes extinguished.

Mr. SADOWSKI. Could not someone else gain title to that patent then?

Mr. KINNEY. After the Government?

Mr. SADOWSKI. Let us take it this way: Suppose we deleted it entirely and there were no patents filed by the Foundation or the Government or anybody, any citizen of the United States could file a patent, could he not, and then he would have an exclusive right to it.

Mr. KINNEY. He has to be the inventor.

Mr. SADOWSKI. Whether he was the inventor or not, if he files on it, it becomes his property because he filed first.

Mr. KINNEY. No. Filing first doesn't determine the right to a patent in this country. The first inventor, I will grant you.

Mr. SADOWSKI. That has happened very often where two or three or four or five different people have invented the same thing, hasn't it, and the first person who files gets the patent rights?

Mr. KINNEY. That is right, whoever the Patent Office determines—

Mr. SADOWSKI. That the one who filed first got it.

Mr. KINNEY. No. Whoever the Patent Office determines to have been the first inventor.

Mr. SADOWSKI. That is what I am saying. If the inventor connected with the Foundation doesn't file and no one connected with the

Foundation files, then some engineer or technician connected with some private industry finds out about this work and he files as an inventor. He says, "I invented it and I am filing for it." He gets it, doesn't he?

Mr. KINNEY. He may get a patent, which is an invalid patent if he was not the first inventor.

Mr. SADOWSKI. No one else has any further right to it.

Mr. KINNEY. Nor he, either. That is, if the idea was evolved by the National Science Foundation.

Mr. SADOWSKI. You mean that the National Science Foundation then would have to come and attack that patent filed by the representative of the private concern?

Mr. KINNEY. Let me answer the question this way, which might be more helpful: I have thought that the Congress might be concerned about maintaining some public record of dates of inventions by the Foundation. The Commissioner of Patents will be talking to you and he can amplify on this, but by a notice which he issued earlier this year it is possible to publish applications for patents in which no claim has been allowed. Of course they really aren't patents then, you see, because no monopoly has been given at all. The Government might choose to adopt a policy of filing disclosures in the Patent Office if it didn't want to publish the stuff right away, and publish it a few years later and have it speak as of its filing date as prior art so that nobody else could patent that kind of thing.

Another thing the Government can do, if it is not information that it wants to keep secret, but widely to disseminate, is immediately to publish it, which would bar any patent by anybody who later filed an application.

Mr. SADOWSKI. What is wrong about the philosophy of the Science Foundation or the Government making available any new discovery as a result of this program, making it available or any of these new discoveries to all industry, all the people of the United States? What is wrong about it?

Mr. KINNEY. If you provide that, that is, without any strings on it, I think that is all right. That is in effect saying that the patent is dedicated to the public. I see no objection to that except the great amount of time and energy that is spent on prosecuting applications for patents. I would expect you might have a corps of maybe 50 or 100 attorneys working at that, which seems like useless human effort. I see nothing wrong with that in principle, provided it is available to all the public, with no strings attached.

Mr. SADOWSKI. And to all industry and manufacturers.

Mr. KINNEY. Yes; I don't see anything wrong with that. But if it is left as it is, where the Foundation could grant licenses on a selective basis, or withhold them, then you are certainly making the Government a giant patent holding company, if the Congress appropriates large sums of money.

I think it should be handled so that the Government is never in the position of having to pay royalties or be blocked on the very thing that was evolved directly by the National Science Foundation.

Mr. O'HARA. Is it your viewpoint here that the Government on the one hand is creating something and on the other hand is choking the public from getting the advantage or the use of that invention which has been invented by the people's money? Isn't that true?

Mr. KINNEY. That is the way I look at it, Mr. O'Hara.

Mr. SADOWSKI. Wouldn't it follow that it would be good for the Government, too, to obtain patents or to obtain some sort of right over these discoveries and then make it available to everybody, because if we took your position where you say the Government should file nothing and assert no right whatsoever to any new discoveries, then any private corporation or private individual can come out and take possession of that through a patent right, and deny it to the rest of the country.

Mr. KINNEY. I think you misunderstood me if you understood me to say——

Mr. SADOWSKI. I understood you to say that the Government should not be in the patent business in any way whatsoever.

Mr. KINNEY. I don't think it should be, but I do think it should block any individuals from getting patents on inventions which are directly evolved by the National Science Foundation. It can do that either by publishing its disclosures promptly or it can do it by filing something which is ostensibly a patent application in the Patent Office, and then publishing it pursuant to the Commissioner's notice at a later date, with no claims in it.

Mr. SADOWSKI. If they publish its discoveries promptly, will that publication in itself deny the right to private industry or some private individual to file patent rights and thereby obtain some exclusive ownership or rights in connection with that discovery?

Mr. KINNEY. It will absolutely prevent any private industry from getting any valid patent on any later invention. There is not the least question about that.

Mr. SADOWSKI. Except that litigation would arise as a result of it.

Mr. KINNEY. Of course, it always can.

Mr. SADOWSKI. The Government would always be on the defensive, then, and would have to attack the individual who had filed for that patent right.

Mr. KINNEY. If the individual who had the patent when he came into court could not by the clearest kind of evidence show an invention date back of the date of the Government publication, his patent would be invalid for that reason alone, and it would be a very simple matter to have it adjudicated invalid.

Mr. O'HARA. On the other hand, Mr. Kinney, if the Foundation filed and the Commission issued what you would call a publication, then that information is available to all of the people and all industry for the development of it.

Mr. KINNEY. Yes; that is right.

Mr. O'HARA. That is the distinction, is it not?

Mr. KINNEY. That would be a secondary way of publishing it, and it would put it right within the channels in the Patent Office. It would have that virtue. The same legal effect I am sure could be accomplished by a Government bulletin that was circulated as a publication.

Mr. PRIEST. Mr. Wilson?

Mr. WILSON. I have no questions.

Mr. PRIEST. Mr. Kinney, we appreciate your appearance here and the statement you have made. It seems to me, as I view the situation, that Dr. Compton, and I think you agree with him in that respect, summed it up pretty well so far as any practical results might obtain: The whole emphasis of the National Science Foundation is

on basic research in the medical, biological, chemical, and other sciences. You agree, I believe, so long as that is followed, there isn't likely to be any difficulty whatsoever over patents, because patents for the most part come out of applied research rather than basic research.

Mr. KINNEY. Primarily.

Mr. PRIEST. And yet it is a pretty troublesome matter, as the conversation here and the questions that have been asked very well demonstrate, to approach this matter in such a way that the public and the Government will have a maximum of protection in the matter of whatever might result from the expenditure of public funds.

If we might grant it would be undesirable to have a patent section at all in the Science Foundation bill insofar as domestic reasons are concerned, at the same time the situation might arise in foreign countries where a foreign citizen would take out a patent in the United States on a United States invention without this country's having taken one out in advance. Isn't that possibly true? Had you thought of the implications possible in the foreign situation?

Mr. KINNEY. If the foreigner had filed for a United States patent on an invention before the invention was made by the Science Foundation or some of its people he would have a prior right, and that would be irrespective of whether the Science Foundation did or did not file a patent application. On the other hand, if the foreign inventor's date was subsequent to the date of invention by the National Science Foundation or some of its people, he could acquire no right, although to forestall that type of patent, you might like the system of the Science Foundation filing on certain highly important things in the Patent Office just with the thought of blocking that.

I hate to see an act go through, though, that looks as though the Congress is coming out and approving in principle Government ownership of patents. That really alarms me on a policy basis, as well as on a constitutional basis. But if the Government did something like that and the Congress made its purposes clear that that was just to forestall the likelihood of invalid patents issuing to somebody who should not get them so as to protect the Government, so the Government itself or its contractors wouldn't be shut out of fields in which it had paid for the research, that would be one thing.

Mr. PRIEST. Thank you, Mr. Kinney. There are no further questions.

Mr. KINNEY. Thank you.

(The following letter was subsequently received for insertion in the record:)

CARPENTER, ABBOTT, COULTER & KINNEY,
St. Paul 6, Minn., April 29, 1949.

Re H. R. 12, S. 247 and related National Science Foundation bills.

HON. ALFRED L. BULWINKLE,
House of Representatives, Washington, D. C.

DEAR CONGRESSMAN: On April 4 of this year I appeared as a witness before the Public Health, Science, and Commerce Subcommittee of the Interstate and Foreign Commerce Committee, of which latter you are a member. I spoke particularly in respect to the Patent Section of it.

There is another aspect of the bill which I would like to call to the attention of the other members of the full committee. I have reference to the fact that the bills, as drawn (particularly see sec. 10 (a) of S. 247, which passed the Senate on March 18) authorized the Foundation "To prescribe such rules and

regulations as it deems necessary governing the manner of its operations and its organization and personnel." There is nothing wrong in this provision, in and of itself, until one observes that it authorizes the Foundation to prescribe the conditions under which it may grant subsidies to one school of higher learning and withhold them from another. For example, to use a well-discussed topic for purposes of illustration, the Foundation could insert its notion of an FEPC provision or of a civil-rights provision in every contract, requiring signature of officers of colleges and universities, as a condition precedent to granting the subsidy. If the president, or other governing officer of a college or university, refused to meet the conditions set out in the contract, the Foundation would be within its rights to withhold granting the subsidy.

Now, please understand me, I am in favor of civil rights and in favor of fair employment practices, but it is my very strong feeling that the States can individually do all the legislating which is necessary on these subjects. So I do not think that the Congress should legislate civil rights or fair employment practices.

Still less do I feel that the National Science Foundation, under the coercive threat of withholding subsidies, should be in effect permitted to legislate civil rights or fair employment practices.

From a newspaper account on Wednesday of this week, it is indicated that Dr. Harlow Shapley, of Harvard University, has been identified in congressional records as a member of numerous subversive organizations, including the recent Peace Congress in New York City, which was denounced as Communist inspired by the House Committee on Un-American Activities; and it is also indicated that Dr. Shapley helped to draft the phraseology of the National Science Foundation bill. One wonders whether such leftist thinkers hope to embarrass all schools of higher learning which refuse to "knuckle under" to the National Science Foundation's notions, not only in respect to civil rights and FEPC but in other respects also; and thus, if possible to embarrass our whole system of higher learning in world opinion.

I hope that the full committee will take a careful, good look at the National Science Foundation bills for this point of view, as well as from the aspect of its Patent Section. I would think that some general provision to assure fair geographical distribution of the large funds anticipated by the Foundation (somewhere between \$100,000,000 and \$1,000,000,000 and \$2,000,000,000 per year) should be included directly in the bill, so as to guard against unfair discrimination in disburse. Otherwise I would guess that most large schools will have representatives or lobbyists in Washington working to get them a bigger subsidy and many good smaller colleges, not feeling that they can support a lobbyist, will be overlooked in the distribution of the large subsidies. In my opinion, our smaller colleges, and especially our smaller sectarian colleges, constitute one of our best defenses against a drift of extreme socialism or even communism.

The way to give us, as a nation, a further shove to the left is to (1) embarrass our system of higher education, and (2) embarrass our system of private business and free enterprise. The aspect of the bill hereinabove discussed would appear to accomplish the first ulterior purpose. The sections of the bill which I discussed in my testimony on April 4 would appear to go far toward accomplishing the second ulterior purpose.

The United States Government is already financing basic research by very large sums of money per year through subsidies granted by units of the armed services, as well as in the Bureau of Naval Research, the Bureau of Mines, etc. So there is no reason why the Congress should be hurried into enacting a bill couched in the phraseology of extreme leftwingers. The Congress, and particularly your committee, I feel, should take sufficient time to make sure that it has an American bill.

If I can be of any further help to your committee, I shall be glad to do what I can.

Very truly yours,

HAROLD J. KINNEY.

Mr. PRIEST. The Chair believes at this time the subcommittee would like to hear from Mr. Lawrence C. Kingsland, Commissioner of the United States Patent Office.

Commissioner Kingsland?

STATEMENT OF LAWRENCE C. KINGSLAND, COMMISSIONER,
UNITED STATES PATENT OFFICE, DEPARTMENT OF COMMERCE,
WASHINGTON, D. C.

Commissioner KINGSLAND. Mr. Chairman and members of the subcommittee, as Commissioner of Patents I have been asked to comment on the patent section of the pending bills. I have addressed myself to the provision of H. R. 12 because as I understand the situation, that exemplifies the general character of the patent provision that is under consideration.

Mr. PRIEST. May the Chair state at this point that that is true, with the exception of the Celler bill, which is somewhat different, but otherwise the other bills are very similar in that respect.

Commissioner KINGSLAND. There is one other bill, as I understand, that has a rather complicated section, and that is H. R. 359.

Mr. PRIEST. That is the Celler bill.

Commissioner KINGSLAND. I have not gone into that, because I thought that the present consideration was directed to this simplified form.

This section 12 of H. R. 12 has two subdivisions, and the first (a) is concerned with contracts relating to the scientific research and states that such contracts—

shall contain provisions governing the disposition of the inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is made.

In my view, this section sufficiently covers the situation. It is short, it is simple, and it apparently is free from objections that have heretofore been raised. The Foundation would have to study all of the factors affecting the particular contract and incorporate a patent clause designed to take care of the special situation. As I read that section, that is the concept of being able to handle each case on an ad hoc basis.

I therefore see no objection to this section.

With respect to the proviso of section 12 (a), I think it is wise of course to put in the proviso, which reads:

Provided, however, That nothing in this Act shall be construed to authorize the Foundation, by any contractual or other arrangement, to alter or modify any provision of law affecting the issuance or use of the patents.

As I understand it, that is simply as a matter of precaution so that there would be no construction that would affect any provision of the patent law.

The second subsection, subsection (b) of section 12, expresses the relationship, as I understand, of an officer or employee directly employed by the Foundation, and it provides that in the case of inventions made by such officers or employees, "in connection with performing his assigned activities and which is directly related to the subject matter thereof," the ownership of any resulting patents will be in the Government or at the disposition of the Government.

Setting aside any question of the technical discussion of whether or not the Government may or may not own a patent directly, it seems to me that the expression here used is in conformity with what would

happen in industry, between a corporation and an individual, or between individuals.

I think in general it may be stated that the patent provision, both subsections (a) and (b), are unobjectionable. As a matter of fact, the powers and duties specified would in my opinion exist in the Foundation even without the presence of the patent section, which of course leaves the question as to whether or not it is necessary to include it. But if it is to be included, as I see it, it is a proper expression of the relationship that should develop between the Foundation and the employees directly employed and within the language of the section. I see no objection to having title pass to whatever ultimate source controlled by the Government the bill may ultimately provide.

I think that, gentlemen, is all that I care to comment on.

Mr. O'HARA. Mr. Kingsland, what about the fundamental question that has been raised by Mr. Kinney here, as to whether or not the Government has any patent rights?

Commissioner KINGSLAND. I believe that that is a matter that is debatable. I do not believe, however, that as a practical matter it would affect the general operation of this bill because, as I view this bill, it seems to me that most of the activities, as has been mentioned here, are in the realm of basic or fundamental research, and it would seem that any development out of that function—that is, operating within that field—would probably result in very few patents.

Moreover, this suggestion—and I have heard it before—that there is a likelihood of consolidation of patents in the Government, under Government control, doesn't seem to me to be something that would come out of the bill even as presently framed. There was reference made, as I understand, to section 11 (e). As I read that, it must be read in view of the opening paragraph of the section. In other words, the acquisition of titles would be limited, as I understand it, under the bill, to those titles that were necessary to carry out the general purposes of the bill. In other words, I don't read that—I may be misreading it—but I do not read it as including the ability of the Government to go out and purchase patents and form a patent pool. I think if there is any possibility of that construction of the act, then I believe it should be clarified. I don't read it that way. That is my position on that.

Getting back to this question of whether the Government should or should not take title, I understand that it has been the practice to take title in the name of the department head or agency. Whether or not that is legal, I am not in a position to express an opinion. While I have been in the patent practice a good many years, that becomes a constitutional question beyond anything that I have attempted to consider.

Mr. SADOWSKI. Under present regulations of your department it can be done and it is being done.

Commissioner KINGSLAND. Titles are being held by departments in the Government and by agencies. That is, titles, also exclusive licenses and other interests in patents, are being held by such departments or agencies. When we get back to that fundamental constitutional question, I say that would be beyond my information.

Mr. SADOWSKI. You make no further suggestion for amendment to the patent section?

Commissioner KINGSLAND. I think that the patent section adequately covers the situation and is in a simplified form which expresses the relationship that would normally grow out of an inventor's relation to one who financed the development. Treating it on that basis and laying aside the constitutional question, I think that is a perfectly satisfactory provision, and I do not feel that there would be the necessity of going beyond it. In other words, I don't see the possibility of any danger coming out of applying the normal relationship between this Foundation, the same as if it were treated as an industry, and the individual inventor. Of course, that first section seems to me to be a satisfactory one because of the necessity of treating each one of the development problems on a separate independent basis. I think Dr. Compton mentioned that this morning. In my experience that is true. In negotiating a contract oftentimes there has to be a give-and-take basis. As I understand it, the Foundation under this provision would have freedom of action, within certain limits, of negotiating contracts for the purpose of fundamental research. Of course, the line between fundamental and applied research is hard to draw. I would agree to that. It is quite likely that any agreement relating to fundamental research may generate things in the applied research, which in turn will result in patentable subject matter. But as long as it stays in the field of fundamental research, there is not much likelihood of this Foundation's dealing with very many patents.

Mr. PRIEST. Commissioner, my feeling is that 12 (a) requires the Foundation to negotiate agreements or contracts with any agency that is to engage in this research with reference to how patents in that particular contract or research project shall be handled, provided that nothing is done to violate the fundamental patent laws. It seems to me that may pretty well tie it down to where there is no inherent danger. Is that your opinion?

Commissioner KINGSLAND. I don't foresee any danger in that situation.

Mr. O'HARA. I wish I shared both of your viewpoints, but I am somewhat fearful.

Mr. PRIEST. Are there any other questions?

Thank you, Commissioner.

Commissioner KINGSLAND. Thank you.

Mr. PRIEST. The Chair understands that Dr. Sidney Kirkpatrick is present and will not require a great amount of time. Dr. Kirkpatrick, will you come forward?

STATEMENT OF DR. SIDNEY D. KIRKPATRICK, EDITOR OF CHEMICAL ENGINEERING, NEW YORK, IN BEHALF OF THE ASSOCIATED BUSINESS PAPERS AND THE NATIONAL CONFERENCE OF BUSINESS PAPER EDITORS

Dr. KIRKPATRICK. Mr. Chairman and gentlemen, I have a statement of less than a page, and to conserve your time I shall hit only a few of the high spots in it. I was trained as a chemical engineer but for the past 20 years I have been chief editor of the technical magazine, Chemical Engineering. I have had the privilege of serving as president of the American Institute of Chemical Engineers and of the Electrochemical Society, but I address you as a representative of the As-

sociated Business Papers and their editorial affiliates in the National Conference of Business Papers Editors. That conference consists of approximately 150 editors, representative of scientific, technical, professional, and trade journals.

For more than 20 years we have been meeting here in Washington regularly, frequently, with heads of Government, with all the Presidents since President Harding, with cabinet officers, Members of the Congress, and department heads. There has been built up, in other words, an effective liaison between the Government and industry and professions which has been beneficial. I think, to both in disseminating information on the activities of the Government and in turn stimulating cooperation and understanding on the part of science, industry, and the professions.

My journal, Chemical Engineering, generally, as well as many of the others for which I speak, has vigorously supported the efforts of the Congress to provide for the establishment of a National Science Foundation. But we are seriously concerned with one section of H. R. 12 which would specifically authorize the Foundation to publish and disseminate scientific information in competition with the privately owned technical press of this country. As now contained in both H. R. 12 and H. R. 311, as well as in S. 247, the authorization is so broad as to permit the Government to parallel or duplicate existing channels for the dissemination of information of value to industry and Government.

We believe there is no need or any other sound reason for the Government to enter into competition with private industry in this field.

We respectfully suggest, therefore, that the language in section 11, paragraph (g), of H. R. 12, should be amended to make clear that the National Science Foundation is not authorized or permitted to publish magazines or other journals that duplicate or compete with existing channels for the dissemination of scientific and technical information. This amendment would, in our opinion, add strength and purpose to the basic work of the Foundation in directing its activities to the promotion of basic research and education in the field of science. It would assure the Foundation of the continued support as well as the efficient services of the scientific and technical press. It would save the expenditure of substantial appropriations required to subsidize governmental publications in competition with those of our tax-paying industry. The proposed amendment is as follows:

Provided however, That nothing in this Act shall be construed to authorize the Foundation to publish, or arrange for the publication at Government expense, of scientific or technical magazines, journals, or books, to be sold in competition with those of existing channels for the dissemination of scientific and technical information.

If there are any questions, I will be glad to answer them.

Mr. PRIEST. We thank you. I am certain, Dr. Kirkpatrick, that it isn't the intention of the sponsors of the legislation to have the Foundation in any way compete insofar as publishing magazines is concerned. I feel certain that we can take care of the language there and will clarify it if there is any doubt whatsoever about that.

Dr. KIRKPATRICK. Thank you, sir.

(The following was submitted for the record:)

STATEMENT BY DR. CHESTER D. SWOPE BEFORE THE SUBCOMMITTEE ON PUBLIC HEALTH, SCIENCE, AND COMMERCE OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE IN REFERENCE TO PENDING NATIONAL SCIENCE FOUNDATION BILLS (H. R. 12; 185; 311; 359; 1845; 2308; AND 2751; S. 247) ON APRIL 4, 1949

I am Dr. Chester D. Swope, Farragut Medical Building, Washington, D. C. I am engaged in active practice as an osteopathic physician. This statement is submitted in my capacity as chairman of the department of public relations of the American Osteopathic Association.

The association has a membership of 8,000 out of 11,000 osteopathic physicians or surgeons legally licensed and practicing their profession in all the States. The association is the recognized accrediting agency for colleges of osteopathy and surgery, of which there are 6 all of approved standing, and some 64 intern training hospitals. In excess of 100 additional hospitals are registered by the association.

The attitude of the association toward the establishment of a National Science Foundation was first submitted in the testimony of Dr. J. S. Denslow, director of research, Kirksville College of Osteopathy and Surgery, and director, research laboratory, Still Memorial Research Trust, Kirksville, Mo., before the Committee on Military Affairs of the United States Senate in October 1945. Dr. Denslow gave similar testimony in March 1947 before your Committee on Interstate and Foreign Commerce of the House of Representatives. On both occasions, Dr. Denslow expressed approval of a National Science Foundation and urged enactment of the pending legislation.

All of the pending bills would create a National Science Foundation. The American Osteopathic Association is hopeful that the differences in detail can be resolved at an early date so that a Foundation can be created and begin functioning. Any imperfections may be cured by subsequent legislation as developments warrant.

The constitution of the American Osteopathic Association prescribes: "The objects of this association shall be to promote the public health—by stimulating original research and investigation—." A research council and a research board coordinate and encourage research activities of osteopathic laboratories and institutions. The Osteopathic Trust, a philanthropic foundation devoted to the custody and application of gifts, grants, and endowments for research, operates under a directorate designated by the association.

A primary problem in the field of research in the medical sciences is the serious shortage of adequately trained manpower. There is an urgent need for scholarships and graduate fellowships, which this legislation would provide. Regarding scholarships, Dr. Denslow told the Senate Military Affairs Committee in 1945:

"At the undergraduate level it has been found that volunteer and paid student assistants make a real contribution to research projects and has led to the conclusion that this program should be expanded. It is virtually impossible to plan an educational program without reaching the average of the class. Consequently, there are top students who have time and ability to do work over and above the required work. It has also been found that although a number of veterans are being trained in our college under entitlements from the Veterans' Administration, there are many preprofessional students who have demonstrated an aptitude for work in biological sciences who cannot continue their education at the professional level because of lack of funds. Students in both categories should be assisted by scholarships."

In the course of the same testimony, Dr. Denslow said with respect to graduate fellowships:

"At the graduate level it is difficult, often impossible, to entice men and women of the proper caliber into research fields because of lack of funds. Substantial fellowships represent the only practical method of competing with the attractions of private practice where few scientific contributions are made."

The osteopathic colleges are scaled to a capacity of 1,700 students. The 528 freshmen enrolled in these colleges in 1948 received preprofessional training in 42 States and the District of Columbia, and represent 236 liberal arts colleges and universities. All matriculants must have completed at least 1½ years of inorganic and organic chemistry, 1 full year of physics, 1 year of biology, and 1 year of English with above-average grades. All must have had 2 years pre-

professional college; most of them have had 3 years and upward of one-half have a baccalaureate degree. The colleges use the so-called strong interest inventory as a part of their admission procedure.

The curriculum in osteopathic colleges is presented in a minimum of four standard academic years, leading to the degree of doctor of osteopathy. Following graduation, internship of 1 year or more is available at approved intern training hospitals.

The catalog of the Kirksville College of Osteopathy and Surgery, Kirksville, Mo., furnishes an example of the caliber of faculty heading the departments of the basic sciences, to wit: Anatomy, George E. Snyder, B. S., M. S., Ph. D.; physiology, Irwin M. Korr, B. A., M. A., Ph. D.; chemistry (biological), Albert P. Kline, B. A., Ph. D.; bacteriology (and public health), Ernest Hartman, B. S., M. S., Sc. D.; pathology, Grover C. Stukeley, B. Pd., B. S., B. Sc., D. O.

The results of research in osteopathic institutions have been published in the *Journal of Neurophysiology*, the *American Journal of Physiology*, the *Proceedings of the Society for Experimental Biology and Medicine*, and in the *Journal of the American Osteopathic Association*.

In carrying out the program envisaged by this legislation, the Foundation will be dependent in large part upon advisory committees for the evaluation of projects in the respective fields. Objectivity in the selection of adequate and impartial representation on these advisory committees is a must. The American Osteopathic Association and affiliated organizations and institutions will furnish utmost cooperation in attaining the ends sought to be accomplished by this legislation.

STATEMENT OF THE NATIONAL COTTON COUNCIL OF AMERICA BEFORE THE SUBCOMMITTEE ON PUBLIC HEALTH, SCIENCE, AND COMMERCE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE, HOUSE OF REPRESENTATIVES, APRIL 4, 1949

The National Cotton Council is the organization of the raw cotton industry. It represents 12,000,000 Americans in 18 States from Virginia to California who depend directly or indirectly on production of cotton.

A delegate body, the council is composed of 244 cotton leaders, selected by cotton interest organizations, and represents producers, ginnermen, warehousemen, merchants, spinners, and cottonseed crushers. Each of these six branches has equal voice in policy decisions of the council, with a two-thirds affirmative vote in each branch being necessary before any measure is approved. It follows that a position of the council on any matter has the overwhelming support of the entire industry.

The council was formed for the purpose of increasing the consumption of American-grown cotton and cottonseed products in the markets of the world. It has no other purpose.

In furtherance of this objective the council has recognized the importance of research in its every phase. As an example of its interest, the council threw the full weight of the cotton industry behind the Research and Marketing Act of 1946. Much of the information on cotton which served as a basis for this act was developed through the activities of this organization. It was stated before House and Senate Committees on Agriculture then, and it is reaffirmed now, that although notable gains have been made in farming methods, agriculture generally, and cotton in particular, have lagged behind industry, creating a highly inequitable condition which could never be remedied except through an adequate research program.

One of the basic problems confronting cotton may be outlined as follows:

(a) Cotton competes with industrially produced products—notably paper and rayon.

(b) Industrial competitors, through research, both fundamental and applied, have improved steadily and rapidly both in quality and in cost of production. These advances have enabled them to take over progressively larger portions of cotton markets with each passing year.

(c) The people most concerned with advancing cotton's competitive status have been unable to provide the research program needed; and because most of them are small farmers scattered across 18 cotton-producing States, they will never be able to finance an adequate program.

(d) Consequently, the cotton industry has continued for many years to fall to a weaker competitive position.

It is the council's position that the Research and Marketing Act of 1946, which was adopted without a single dissenting vote, was a great and necessary step to give agriculture equality in research. Since that time the council has maintained close liaison with the agencies of Government charged with the responsibility of planning research projects. Efforts have been directed toward

1. Seeking out and describing accurately significant research problems.
2. Market evaluation of the importance of each problem to the industry and the Nation as a whole.
3. Focusing attention on those problems of primary importance.

It is the considered opinion of the organization that establishment of a National Science Foundation is the next logical and essential step in the direction of an adequate research program, not only for cotton but for all commodities.

To recognize fully the significance of National Science legislation, it is important that we understand the dependence of modern civilization upon scientific progress. Every new development is a product of science. National existence itself is dependent upon superior scientific attainments.

The reasons why National Science Foundation legislation is essential have been thoroughly covered in the report *Science, The Endless Frontier* by Dr. Vannevar Bush. The need for action is well recognized by the Congress, as is shown by the passage of legislation last year.

One purpose of the proposed National Science Foundation is to encourage basic research in order to gain general knowledge and an understanding of nature and its laws. This general knowledge is absolutely essential to continued progress in scientific research on practical problems. As Dr. Bush has so ably expressed it, basic research "provides scientific capital; it creates the fund from which the practical applications of knowledge must be drawn."

It is important to realize that while the Research and Marketing Act is proving valuable in easing the cotton problem, it is not doing all that needs to be done. Furthermore, it is felt that adequate application of the Research and Marketing Act is endangered by too limited a store of fundamental knowledge needed as a background for effective attack on cotton's problems.

The implications of any federally financed research program go far beyond any single industry; it is important to all of them. Although such a program could hardly fail to include fundamental research on America's most abundant resources, such as cotton and the cellulose of which it is composed, it is not for this reason alone that the legislation is considered important. Research in other fields is statistically certain to yield information which may be important keys to solving some of cotton's most urgent problems, and it is believed that in no other way will this information ever be obtained.

In view of its importance to national progress, to public welfare, and to the future safety of America, the council earnestly urges favorable consideration of this legislation.

Mr. PRIEST. A quorum call has just come. The chair had hoped that we could hear Mr. Lanham. Mr. Lanham, you will require about 30 minutes, will you not?

Mr. LANHAM. I would, Mr. Chairman. I realize it is late now, but I do want my testimony to be heard. I can come in the morning or any time that suits you.

Mr. PRIEST. Another subcommittee is meeting tomorrow in the room. If you could arrange to come tomorrow, and if we could arrange for another room, we will notify the committee members and make some arrangements to hear your testimony tomorrow morning. I believe that we can find some other place where your testimony can be given. We will notify you and other committee members. With that hearing tomorrow morning, these hearings then will stand adjourned until April 26, at which time there will be one 2-hour session of the subcommittee held for hearings.

Without objection there will be placed in the record at this point a letter from Dr. Vannevar Bush, another letter from 15 distinguished scientists, and a letter from the American Chemical Society.

(The letters referred to follow:)

CARNEGIE INSTITUTION OF WASHINGTON,
Washington 5, D. C., March 22, 1949.

CHAIRMAN INTERSTATE AND FOREIGN COMMERCE COMMITTEE,
House of Representatives, Washington, D. C.

DEAR SIR: I appreciate the opportunity given to me to appear before the subcommittee of your committee to testify on a number of bills which would establish a National Science Foundation. Unfortunately I will be unable to appear in person, but I do desire to submit a statement for the record.

I have long supported legislation for a National Science Foundation as a means for providing the augmented financial support which has become necessary in order to assure the conduct of basic research—the inquiry into natural phenomena—on a level adequate to meet the demands of modern society. The tremendous effort in applied research exerted during the war has in many fields pushed the application of fundamental knowledge to the limit of such knowledge. In addition, the applied research being done in this country has more than tripled since 1939, and it is increasing.

Although one can rearrange existing scientific data in various forms and combinations, the advances to be achieved by such rearrangement are limited. In order to make significant progress, it is necessary to delve deeper into the unknown—to provide additional knowledge of the underlying nature of our environment. This is the purpose of truly basic research and the essence of such research is that it is carried on without thought of practical ends—it is an attempt to understand rather than to provide a particular material benefit. Basic research, therefore, rarely does in fact result in anything of immediate tangible value and even less often does it result in patentable inventions. But the general understanding and fundamental knowledge provided by basic research constitute the essential building blocks with which applied research and development directed toward particular objectives can operate. It is this applied research which gives rise to patents and know-how on which industrial progress depends.

Now, the main necessity for establishing a National Science Foundation as a Government agency rests in the fact that private resources are no longer sufficient to extend fundamental knowledge at a rate sufficient to meet the needs of applied research for industrial and governmental purposes, and to maintain this country in a position where its fundamental science, in every field of intellectual interest, will be second to none. Above all, the National Science Foundation is not designed to control or dominate basic research. This should not be done by any single group whether governmental or nongovernmental. Rather, the proper function of the National Science Foundation is to discover areas to which, relative to current trends, sufficient emphasis is not being given and to supply the funds to make up this deficit with the realization always that no man can predict with any certainty what will emerge in a practical way as knowledge is extended, so that all sound attempts to extend basic knowledge in truly relevant manner are inherently worthy. In so doing, it is essential that the Foundation be free to select the group or individual which is best suited to undertake the group or individual which is best suited to undertake the necessary investigation and supply the funds with which to do it with a minimum of administrative burden.

The increasing scale of applied research makes necessary commensurate increase in the numbers of trained scientists and engineers. In fact, the number of scientists and engineers trained annually has doubled every decade since 1900. It is plain that to meet these demands, which are increasing by geometric progression, great effort will be required. At the same time, a recent survey has shown that average tuition rates in the larger universities have increased by about 40 percent. The need, therefore, is urgent for Federal support of the training of scientists.

I am gratified to see that six of the bills before your committee show general agreement as to the essential nature of the National Science Foundation. The record of past hearings show that these bills meet with the general approval of the vast bulk of scientists, educators, and industrial and Government officials. Among the bills before you, again excluding from consideration H. R. 359, there are divergences but these appear to me to be of minor importance. Last year when the same bills were being considered, I wrote to your committee expressing a preference for the group of bills identical with H. R. 12 over the bill which has

twice passed the Senate and which is represented by H. R. 1845. In addition, I suggested certain amendments in an effort to reconcile the differences between the two bills. I am still of the opinion that either H. R. 12 or H. R. 1845 would provide an entirely satisfactory organization, and I respectfully refer you to my letter of May 14, 1948, for what use you may care to make of it in the event that you decide to reconcile these two bills in this committee rather than in conference.

On the other hand, in view of the Senate passage of a bill identical with H. R. 1845, the provision of urgently needed Federal financial support for basic research and for the training of scientists would be accelerated by passage of H. R. 1845.

Very truly yours,

V. BUSH.

MARCH 30, 1949.

HON. J. PERCY PRIEST,
House of Representatives,
Washington, D. C.

DEAR MR. PRIEST: Having had a continuing interest in proposed National Science Foundation legislation since the submission of Dr. Vannevar Bush's report to President Truman, we wish to go on record on the following points:

Prompt action on the part of the Congress creating a National Science Foundation is imperative for both national defense and the peacetime development of science in this country.

We are in favor of the legislation in the form (S. 247) in which it passed the Senate on March 18, 1949, and the identical bills H. R. 12, H. R. 185, and H. R. 311, H. R. 1845, H. R. 2308, and H. R. 2751.

The patent provisions in these bills seem to us to be adequate and appropriate to this legislation. We mention this because we hear that there may be some movement to revise the legislation in this respect.

We have closely followed this legislation over the period of nearly 4 years during which it has been under consideration by the Congress and we urge its immediate enactment.

Dr. Boris A. Bakhmeteff, Honorary Member, American Society Chemical Engineers, Chairman Committee on Science Legislation, Engineers Joint Council; Dr. G. W. Beadle, Chairman of the Division of Biology, California Institute of Technology; Dr. Isaiah Bowman, President Emeritus, Johns Hopkins University; Dr. Alan M. Chesney, Dean Johns Hopkins University, School of Medicine; Dr. A. G. Christie, Professor Emeritus of Mechanical Engineering, Johns Hopkins University; Dr. Robert E. Doherty, President, Carnegie Institute of Technology; Mr. Farnham P. Griffiths, San Francisco; Dr. R. F. Griggs, Professor of Biological Sciences, Past Chairman, Division of Biology and Agriculture, National Research Council; Dr. C. S. Marvel, Professor of Organic Chemistry, University of Illinois; Dr. Walter W. Palmer, Director, Public Health Research Institute of the city of New York, Inc.; Dr. Homer W. Smith, Professor of Physiology, New York University College of Medicine, Chairman, AEC Post-Doctoral Fellowship Board in the Medical Sciences; Dr. John T. Tate, Research Professor of Physics, University of Minnesota; Dr. James J. Waring, Professor of Medicine, University of Colorado, School of Medicine; Mr. Bethuel M. Webster, Webster, Sheffield & Horan, New York; Mr. Robert E. Wilson, Chairman of the Board Standard Oil Co. (Indiana).

AMERICAN CHEMICAL SOCIETY,
San Francisco, Calif., March 31, 1949.

HON. J. PERCY PRIEST,
Chairman, Subcommittee on Public Health, Science, and Commerce,
Washington 25, D. C.

DEAR MR. PRIEST: The American Chemical Society appreciates the invitation to present its comments on Science Foundation bills. Unfortunately, the presence

of all Society officers at a meeting in San Francisco makes it impossible for us to be represented at the hearings on any of the dates specified. We are glad, however, to give you the opinion of our Board of Directors on this subject.

The American Chemical Society favors legislation in the support of fundamental science and the education of scientists. The Society is on record to this effect.

It sees no necessity for the inclusion in such legislation of special patent clauses in addition to those which now pertain to all Government-financed research carried on today under existing statutes.

The Society believes that funds to support research in the natural sciences and in the social sciences should not be administered by the same agency.

The American Chemical Society holds the opinion that the administrator should be selected by the Foundation or its Executive Committee.

The important thing to be accomplished by legislation of this kind should be the support of research in fundamental science in our academic institutions and the provision of such assistance as may be necessary to assure an adequate supply of properly educated scientists to meet the needs of the country.

Very truly yours,

ALDEN H. EMERY,
Executive Secretary.

STATEMENT OF HON. ELBERT D. THOMAS, A UNITED STATES SENATOR FROM THE
STATE OF UTAH RE NATIONAL SCIENCE FOUNDATION

You may be interested in the bills entered in the Eighty-first Congress on the National Science Foundation as of the week ending January 8, 1949.

S. 247: "Mr. Thomas of Utah (for himself, Mr. Kilgore, Mr. Fulbright, Mr. Smith of New Jersey, Mr. Cordon, and Mr. Saltonstall) introduced Senate bill 247, to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, which was referred to the Committee on Labor and Public Welfare, and appears under a separate heading."

"I also introduce at this time the science foundation bill, which was sponsored by the Senator from New Jersey (Mr. Smith) and myself, and several others at the last session of Congress. This bill, also, is in the identical form, with the exception of the necessary date changes, in which it passed the Senate. I may say for the benefit and information of Senators, that the bill meets the objections of the President when he vetoed a similar measure passed in the session before the last."

Senator Warren G. Magnuson asked unanimous consent to join with his colleagues on this bill.

Note: S. 247 is identical with S. 2385 as passed in the Senate by the Eightieth Congress. S. 2385 as introduced in the Senate was identical with H. R. 6007 as introduced in the House by Mr. Wolverton in the Eightieth Congress.

The following National Science Foundation bills were introduced in the House as of January 8, 1949, in the Eighty-first Congress;

H. R. 12. Representative Priest, Democrat from Tennessee.

H. R. 185. Representative Harris, Democrat from Oklahoma.

H. R. 311. Representative Wolverton, Republican from New Jersey.

These three bills are identical with H. R. 6007 as reported out of the Interstate and Foreign Commerce Committee of the House in the Eightieth Congress.

H. R. 359. Representative Celler, Democrat, from New York; same as S. 525, Eightieth Congress.

S. 2385 as passed made the special commissions in heart, cancer and polio permissive and authorized the Foundation to create the executive committee and define its powers. H. R. 6007 as passed made creation of the special commissions and the executive committee mandatory and defined their duties.

DIRECTOR OF FOUNDATION

S. 2385: Section 5, page 6, lines 9-17,
Report No. 1151

"There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate, after the members of the Foundation have been appointed and qualified. He shall serve as an ex officio member of the Foundation. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President."

H. R. 6007: Union Calendar No. 1107,
Report No. 2223, section 6, pages 7-8

"There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate, after receiving recommendations from the Foundation. He shall serve as a nonvoting ex officio member of the Foundation and also as the nonvoting Chairman of the Executive Committee. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President.

(b) The Director shall, in accordance with such directives as the Executive Committee shall from time to time prescribe, exercise the powers set forth in this Act, within the policies developed by the Foundation: Provided that the authority granted to the Foundation by paragraph (c) of section 11 shall be exercised by the Director with the approval of the Executive Committee."

The differences in S. 247 (identical with S. 2385) and H. R. 12, H. R. 185 and H. R. 311 (identical with H. R. 6007) are not sufficiently serious to warrant further hearings. It is probable these differences between the Senate and the House bills could be compromised at committee level. H. R. 6007 having been reported out of committee several months after S. 2385, enjoys the benefit of later improvements in language.

The need for a National Science Foundation is today greater than ever before. There are no facilities in existence today where adequate coordinating studies can be made to determine the need and the degree of overlap in scholarships and research activities of the Nation. Many government and private agencies are active in the educational and research fields but no agency is coordinating this effort.

S. 2385, section 14h, page 16, and H. R. 6007, section 15h, page 18, specifies the basis of this cooperation.

"The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development."

"The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development."

Mr. PRIEST. We will recess now until tomorrow morning, if the hearing can be arranged.

(Thereupon, at 12:30 p. m., the subcommittee recessed until 10 a. m., Tuesday, April 5, 1949.)

NATIONAL SCIENCE FOUNDATION

TUESDAY, APRIL 5, 1949

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE.

Washington, D. C.

The subcommittee met, pursuant to recess, at 10:30 a. m., in room 1333, New House Office Building, Washington, D. C., Hon. J. Percy Priest (chairman of the subcommittee), presiding.

Mr. PRIEST. The subcommittee will be in order, and we will proceed. We are happy to have you, Mr. Lanham.

STATEMENT OF HON. FRITZ G. LANHAM, FORT WORTH, TEX.

Mr. LANHAM. Thank you, Mr. Chairman.

Mr. Chairman and members of the subcommittee, my name is Fritz G. Lanham. My home address is Fort Worth Tex., and my Washington address is Woodley Park Towers.

I represent the National Patent Council, a nonprofit organization of small manufacturers with headquarters offices at 1434 West 11th Avenue, Gary, Ind. I feel that, in addition to this representation of small business, I speak for the great rank and file of American inventors who in their basements and garrets, often working with insufficient food and sleep and money, labor industriously through the incentive of our American patent system and our free-incentive economy to express their ingenuity in discoveries which promote our progress and prosperity. Perhaps from such humble sources have come even the majority of the useful inventions which have made our country outstanding. So I am speaking for the so-called little fellows who really have proved themselves the big fellows among the creative forces responsible for our national growth and development.

It was my privilege to serve for approximately a quarter of a century as a member of the Committee on Patents of the House of Representatives. That service taught me that through the incentive of our American patent system these humble folk have been the very basis of our progressive development, but it taught me also that in this land of the free there are persons and organizations seeking to undermine and, if possible, destroy this foundation of our progress.

In other words, it has been through this traditional and constitutional policy of ours that this Nation has become outstanding. There are forces at work today seeking to induce us to surrender that policy. Though among those who have indicated an interest in legislation of the character suggested in the pending bills may be found

some thoroughly loyal Americans, including the distinguished gentlemen who introduced these measures and some others who hope for governmental grants for the institutions they represent, I very firmly believe that you can find sponsors who, with unpatriotic intent and with the adroit use of deceptive propaganda, are bent upon the destruction of our American form of government. I think these sponsors would consider the adoption of the proposal of these bills as the most important step toward the accomplishment of their un-American purpose. Before I finish my testimony I shall bring to your attention for your earnest consideration and investigation some activities which I believe will prompt you to conclude that the original idea and advocacy of this proposed legislation may have emanated from sources by no means truly or typically American.

In my judgment, based on the years of experience and observation and study I have recited and also on certain modern trends which, I think, substantiate that judgment, the enactment of the identical bills before you would lead us to abandon our inspiring and fruitful policy and substitute for it the centralization in Government of scientific research and thereby dilute, if not destroy, the incentive of those who have really been responsible for most of the accomplishments which have made America great.

Some very pertinent questions naturally arise. Is such a proposal in keeping with American philosophy and ideals and the stimulation of independent individual endeavor to keep this Nation in the forefront? Does it not smack, rather, of the ideology of totalitarian regimes which would subordinate the rugged individual to the domination and regimentation of the state? Doesn't it preach the foreign doctrine that the Government is going to do the necessary research through a Foundation with unprecedented power to put its agents in dominant command of all endeavor for our betterment? To that so-called little fellow, so responsible for our progress, doesn't it seem to say in effect: "You can desist from your labors; the Foundation will do all that is necessary"?

I think some of the testimony at a former hearing is indicative of this purpose. I may say, Mr. Chairman and gentlemen of the subcommittee, that the same idea which I shall now mention was advocated by one of the witnesses who appeared last Friday before this subcommittee.

The proponents of this legislation first came expressing an interest in basic science only, but in the hearings last year the cat emerged from the bag in the suggestion of some of them that the scope of the Foundation's research be extended to include applied science in order that the agents of the Foundation could be empowered to look around and see what independent individuals and small business were doing or had in mind and then take such steps as they thought necessary. Isn't that a disclosure, likely unintended, of the designed purpose to centralize research under Government control and thereby, to a great degree at least, nullify the incentive and the efforts of independent American citizens outside the pale of the powerful Federal Foundation? We have already reached that stage in the matter of the development of atomic energy. No further proof of this statement is necessary than a reading of the Atomic Energy Act.

Are we to keep our fundamental American policy, responsible as we all know for our preeminent place among the nations of the world

and for our achievements and success, or are we to fall in line with the program of certain other countries not so fortunate who advocate and practice the distinctly un-American doctrine that the State alone in its sovereign capacity must seek through its agents the means of individual and national betterment through its prescribed channels of activity and research? There are people and organizations in our country today, whom we properly regard with unadulterated suspicion and distrust, who are preaching this latter spurious doctrine.

I do not think it can be questioned that they want this change in our policy. And they want it expanded into the many ramifications of our scientific and industrial and education and social life. Shall we adopt as our own such a program of centralization which we Americans have loyally and consistently criticized and censured in regimes hostile to every basic American concept of government?

Contemplate the progress we have made and are making under our traditional and constitutional policy which affords the individual an unfettered incentive to work for the betterment of our country and of humanity. Why, in the field of medicine alone, for instance, consider how frequently we are being surprised beyond measure by the discovery of new drugs and processes to relieve and cure the serious diseases which so long have taken their tragic toll. Are we to tell those altruistic toilers and similar benefactors in other worthy fields that the Government will now take over their work? Do we wish even to risk diminishing their beneficent service? Remember that our is a government of the people, not of the State. In the future, as in the past, we may look with confidence to the people to maintain and promote our preeminence if we retain and assure for them the incentive which prompts their undisturbed and constructive labors.

Among those who have appeared heretofore in support of National Scientific Foundation bills have been representatives of various universities and colleges appealing to you to grant them money the Government does not have. They can't be censured for their devotion to their institutions; they exemplify a perfectly normal human trait. But let me remind you that the scholarships and fellowships they desire to establish—for which such eminent inventors as Thomas A. Edison and the Wright brothers and George Washington Carver in their youth likely could not have qualified—could be provided only for the young people who are left after industry, in accordance with its customary policy, has taken the cream of the crop to continue their technical education with jobs awaiting them at the expiration of that additional schooling. Industry is now devoting enormous sums to such training, and it must be borne in mind that the Government also is already spending many millions of dollars annually for research in connection with our national defense and security.

Now let us look at some of the terms of the bill before you. Other witnesses desire to appear to discuss the effect of many provisions to which I shall not have the time to refer. But I do wish to mention a few.

In the first place, what does the following provision mean?

The Foundation is given authority:

SEC. 4. (6) to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups.

In addition to this very clear implication of governmental interference and domination, let me remind you that individuals and others interested in the search for useful inventions do not wish to be disturbed by anyone, governmental agent or otherwise, to learn what they are doing. I'd certainly hate to be a governmental agent trying to force my way into some cellar where a diligent inventor was pursuing his work. I might get out successfully, but I doubt if I'd look the same. Under the incentives of the patent system and our free incentive economy these inventors studiously work in secrecy and they don't want any intruder peeping over their shoulders. It is their hope, if successful in their research, to have an opportunity to reap for a time the fruits of their discoveries. This provision is based upon an absolute misunderstanding of the attitude and viewpoint of inventors, and with all the force at their command they would resent such snooping interference.

In a similar way subsection (b) of section 1 states that the Foundation shall have as one of its objectives the strengthening of basic research, "including independent research by individuals." They who labor in basements and garrets to bring their inventive ideas to practical utility would, to say the very least, frown upon such intrusion into their private investigations as an unwarranted restriction upon their American freedom of endeavor. And these very pioneers are the very ones who have given us so many of our best discoveries by reason of the traditional and constitutional protection. They, and not the Government, are entitled to the full credit of their accomplishments.

But in section 10 (e)—I think perhaps in the bill H. R. 12 it is section 11 (e)—my remarks are predicated principally upon the sections as numbered in the bill which passed the Senate.

But in section 10 (e) of the identical bills before you, Governmental power would reach its zenith. This provisions gives the Foundation authority—

to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan real and personal property of all kinds necessary for, or resulting from, scientific research.

That provision would give the Foundation the authority and the power to strip individuals, small business, big business, and everyone else of all property of every kind whatsoever as the arbitrary opinion of the Foundation might determine. It could take plants, machinery, patents, plans, drawings, data, material of every description, from everyone interested in or engaged in research devoted to our continued progress. And that is not all. It could sell or otherwise dispose of those plants, plans, drawings, machinery, patents, and so forth, to somebody else. For example, patents are property; so the Foundation could take a man's patent, with reference to which the Constitution and laws are intended to assure him certain rights, and do with it what the Foundation pleased.

I think any good lawyer knows the broad significance and connotation of the word "purchase" in its legal aspects. I recall that I learned it very forcefully when an able preceptor explained the meaning of the rule in Shelley's case.

This provision in these bills would give the Foundation the right of condemnation which, in its legal aspect, is purchase. Also the

Foundation could take a man's invention if not yet patented. In this connection, note the relatively inconsequential statement in section 14 (c). It says:

The Foundation shall not, itself, operate any laboratories or pilot plants.

But bear in mind that it could do whatever it pleased with the laboratories and plants of others. It could even sell them. And we boast a system of free enterprise.

May I say in this connection that I noted the recommendation of Mr. George Folk, representing the NAM, for a modification of that language, but in my judgment the modification would not in any way improve that provision. This arbitrary power would still be left absolutely in the hands of the Foundation.

Section 14 (k) is to keep the Foundation out of the atomic energy field. Of course, there could be no reason for the Foundation to enter that field inasmuch as the Government has already monopolized it.

Now, let us look at the effect of some of the confusions and contradictions of the patent provisions. Remember, too, that in the Congressional Reorganization Act the jurisdiction of patent legislation was not assigned to this committee. The consideration of patents is a very technical matter, and any patent legislation necessarily requires proper hearings and study. Let us not forget that the American patent system has been the very basis of our progress and prosperity.

The first paragraph, section 11 (a), which in the bill H. R. 12 is section 12 (a), of the patent rights provisions states that whatever the Foundation does it should protect the equities of the individual. Of course, it is a little difficult to understand how the broad power to take and dispose of the individual's patent or other property can be considered as a protection of his equities. Under such circumstances, I can't discover any special safeguarding assurance in the language which follows:

Nothing in this act shall be construed to authorize the Foundation, by contract or other arrangement, to alter or modify any provision of law affecting the issuance or use of patents.

Subsection (b) then goes on to provide that—

No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof.

Now, let me first inquire if that is supposed to apply to one who holds a scholarship under the Foundation? If you say it does apply to those holding scholarships and fellowships, then, in my judgment, in spite of the provisions in the bills to the contrary, you are changing the patent laws of the United States. How can one holding a scholarship under the Foundation be any more an employee of the Government than a GI taking advantage of the government grant to continue his education? Each is receiving a bounty from the Government for additional schooling. And it is entirely possible that some of these GI's may be taking their further educational training in some kinds of research. Are they, too, to be subjected to such contemplated control? Under the patent laws and the court decisions, the Government has no special authority over the patent rights of an individual not connected with the Government as an officer or employee,

and only limited authority over the patent right of employees and officers.

In section 11 (b)-12 (b) in H. R. 12 and the other identical bills, it is provided also—

That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

This provision may be at variance with the intent of the Constitution of the United States and also of the patent laws. In the first place, the Constitution provides for a patent for the discoverer of a useful invention and that he shall be given exclusive control of assignments of his patent, et cetera, for a period of years. These bills practically provide for compulsory licensing of patents, which has long been advocated by foes of our patent system and the adoption of which naturally would obviate the assured exclusive use by the inventor. The provision even requires that the discoverer make an assignment to the Government's nominee as the Director may dictate.

Now, what would that mean? It would mean that the discoverer could have no right whatever in his invention and patent, and that his rights would be turned over to somebody the Director would indicate who had nothing whatever to do with the discovery. And, furthermore, all except that nominee of the Director would be absolutely barred from using the invention.

Let me remind you, in this connection, that there is nothing secret about a patent. When an invention reaches the stage of patent, its details are made known to all the world. It is to be assumed that, if the Foundation should discover something primarily useful for our national defense and security, it would be kept secret and would not be patented. And our present patent laws afford the Government full protection in this regard. But here you stipulate that an invention which has reached the stage of patent, and which can be fully understood by anyone interested, cannot be used by anybody, however beneficial to the country such use might prove, unless the Director so nominates. In other words, in these days when so much is being said about monopolies, the Director can establish an absolute monopoly in the use of such publicized invention and give that monopoly to someone who had nothing whatever to do with the discovery.

With further reference to my statement of the well-known fact that the individual in his freedom of action is the important factor of our American system of Government, I should like now to quote with permission from an able copyrighted address delivered by the present chairman of the House Committee on Interstate and Foreign Commerce at the commencement exercises of Western Reserve University, Cleveland, Ohio, on September 12, 1945. Among other things, Chairman Crosser then said:

It is, therefore, the duty of everyone to be on guard against any interference with the freedom of the mind. Remember those words of Thomas Jefferson— and let me remind you that Thomas Jefferson was the father of our American patent system at the very beginning of its operation—

"I have sworn, upon the altar of God, eternal hostility against every form of tyranny over the mind of man."

Because of the fear of economic power, social ostracism, ecclesiastical censure, scholastic scorn, or governmental oppression, men have refrained from responding to their inspirations and higher intuitions, and so mankind has been denied

the benefit of incalculable good which would otherwise have resulted from the unfolding of truth in human experience.

Government should prevent men's infringement of each other's rights and should assure equality of opportunity to utilize the bounty supplied by the Creator. That done, the individual, in the free play of his individuality, will develop capacity and ability not possible for the man whose actions are so constantly directed by governmental authority as to make of him a mere mechanism. Just to the extent that the individual's actions are directed and controlled by others, whether by governmental authority or otherwise, to that extent are his faculties deadened.

It was by the exercise of that individual right under our free incentive economy that in the late war independent American citizens submitted and permitted to be kept secret several thousand discoveries of their own which in the short space of 2 years outweighed in importance all that Hitler with his scientific cohorts had been able to produce in 10 years of intensive effort. Let us not stifle or diminish by centralized governmental domination that incentive of the American individual which has proved the source of our outstanding accomplishments.

In my judgment, the enactment of the present proposal would provide the basis for bureaucracy on a broad scale and at great expense, and I think that it would retard rather than stimulate our progress in the field of invention. What reason is there to change or abandon the American policy responsible for our preeminent progress by adopting the doctrines we deplore in lands across the seas?

Now, let us inquire whether those in authority in those foreign regimes are interested in effecting this departure from our established and productive governmental policy. Of course, they do not advertise their efforts and, consequently, we are necessarily left to the conclusions to be drawn from facts known and facts that can be ascertained.

We have lately read in the newspapers of a conference held in New York City, attended by delegates from various lands, and ostensibly interested in world peace and scientific progress. Some of the delegates who hoped to be in attendance were not permitted to land on our shores. According to the newspapers, some of the sponsors of the meeting withdrew their sponsorship when they became familiar with certain circumstances not to their liking. We are told, further, that quite a number of loyal Americans picketed this conference, bearing placards indicative of their belief that the purposes of the assembly were decidedly un-American. You have probably already formed your own conclusions about the objectives of this gathering, so I shall not elaborate.

The newspapers tell us, also, that Dr. Harlow Shapley, of Harvard University, served as the chairman of that conference. It might be quite worth while, therefore, to look into the views and sentiments of Dr. Shapley and determine whether or not he has any particular interest in the enactment of this proposed legislation. If so, perhaps the inference would be justified that others with similar views who reside either in this country or in foreign lands might also wish us to put this proposal on the statute books.

An article which appeared in the Chicago Daily Tribune in its issue of April 26, 1948, with a Washington date line of April 25, 1948, purported to give the attitude of Dr. Shapley along the line I have indicated. It bears this headline: "Shapley group seeks control of

U. S. research." It might be well, in our own research, and as a preliminary approach to this matter, to quote some pertinent passages from that article. [Reading:]

Minutes of the Inter-Society Committee for a National Science Foundation, a group of scientists promoting a bill to spend \$15,000,000 a year on research, disclose that the group intends to pick the personnel of the Foundation when and if it is approved by Congress.

Prominent in lobbying for the legislation is Dr. Harlow Shapley, director of the Harvard University Observatory. He is a member of various organizations designated by Attorney General Clark as subversive. Shapley is vice chairman of the group which would make the selections.

Shapley has a long record of affiliation with groups which the House Un-American Activities Committee has labeled as communistic or Communist fronts. Recently he was disclosed as the master mind of The Committee of One Thousand, a group formed to press for abolition of the House committee.

Cite his affiliations: Shapley was a member of the American Committee for Democracy and Intellectual Freedom, which the House committee cited as a Communist front organized to defend Communist teachers in a report March 29, 1944. He was a member of the League of American Writers, which was described as a Communist-front organization in three committee reports.

He was revealed in the columns of the Daily Worker as the signer of various letters supporting the aims of organizations, described by the committee as Communist fronts, and of appeals in behalf of Communists such as Gerhard Eisler and Earl Browder.

Minutes of a meeting in Chicago last December 28 of the executive committee of the group sponsoring the research bill, report:

"It was agreed that the committee's recommendations should be ready for submission immediately upon enactment of the proposed legislation."

Members of Congress have learned that the list has been prepared and is now ready for submission to the White House upon passage of the bill.

The accusations in that article are very serious ones. Naturally I wished to learn whether or not the alleged connection of Dr. Shapley with such organizations had been considered by the Committee on Un-American Activities. I made due inquiry in that regard, and I quote the following information from the records and publications of that committee:

A letter read dated September 22, 1939, discloses that Harlow Shapley was a member of the National Committee of the American Committee for Democracy and Intellectual Freedom. According to the Daily Worker of July 25, 1940, page 2, he was one of the signers of that organization's open letter setting forth a five-point program to aid refugees, which was sent to Secretary of State Hull. Letterheads dated January 17, 1940, and May 26, 1940, reveal that he was a member of this organization's executive committee. The Special Committee on Un-American Activities, in its report of June 25, 1942, page 13, cited the American Committee for Democracy and Intellectual Freedom as a Communist front, stating: "In recent years, no other organization has been more clearly stamped as a Communist front." Again in the report of March 29, 1944, the committee cited the organization as a Communist front, which defended Communist teachers.

A folder of the Citizens' Committee To Free Earl Browder, which was issued in 1942, names Harlow Shapley as one of the prominent Americans who favored Presidential clemency for the release of Earl Browder, general secretary of the Communist Party in the United States. Report 1311 of the Special Committee on Un-American Activities, March 29, 1944, page 6, states: "When Earl Browder was in Atlanta Penitentiary serving a sentence involving his fraudulent passports, the Communist Party's front which agitated for his release was known as the Citizens' Committee To Free Earl Browder." This committee had previously been cited as a Communist organization by Attorney General Francis Biddle. (Congressional Record, September 24, 1942, p. 7687.)

Harlow Shapley has been affiliated with the Council for Pan-American Democracy as a signer of the open letter which that organization sponsored and sent to the President of Brazil to save Luiz Carlos Prestes, Brazilian Communist leader and former member of the executive committee of the Communist

International. The list of signers appeared in the December 3, 1940, issue of *New Masses*, page 28. The Council for Pan-American Democracy, also known as the Conference for Pan-American Democracy, has been cited as a Communist front in two reports of the Special Committee on Un-American Activities. (Report, June 25, 1942, p. 18; report, March 29, 1944, pp. 161 and 164.) The organization has also been cited as "subversive" and "Communist" by Attorney General Clark in lists furnished the Loyalty Review Board, which were released to the press by the United States Civil Service Commission, June 1, 1948, and September 21, 1948.

The affiliation of Harlow Shapley with the League of American Writers is shown by the *Daily Worker* of July 21, 1940, page 7, which reveals that he was one of the signers of the League of American Writer's open letter to Secretary of State Cordell Hull and the Pan-American Conference. The League of American Writers was cited as a Communist front by the Special Committee on Un-American Activities in its reports of January 3, 1940; June 25, 1942; and March 29, 1944. Attorney General Francis Biddle said of the league: "The League of American Writers, founded under Communist auspices in 1935. * * * The overt activities of the League of American Writers leave little doubt of its Communist control." (Congressional Record, September 24, 1942, p. 7686.) The League of American Writers has also been cited as "subversive" and "Communist" by the present Attorney General. (Press releases of the United States Civil Service Commission, dated June 1, 1948, and September 21, 1948.)

Harlow Shapley, according to a letterhead of February 15, 1940, was a sponsor of the National Emergency Conference for Democratic Rights. The *Daily Worker* of May 13, 1940, pages 1 and 5, discloses that he was one of the signers of an open letter issued by this organization in support of one of its policies. The National Emergency Conference for Democratic Rights was cited as a Communist front by the Special Committee on Un-American Activities in Report 1311 of March 29, 1944, pages 48 and 102.

According to the *Daily Worker* of March 18, 1945, page 3, Harlow Shapley was one of the signers of a statement issued by the National Federation for Constitutional Liberties which hailed the War Department order on commissions for Communists. This organization was cited as a Communist front by the Special Committee on Un-American Activities in the report of June 25, 1942, page 20, and again in the report of March 29, 1944, page 50. Attorney General Biddle characterized the organization as "Part of what Lenin called the solar system of organizations, ostensibly having no connection with the Communist Party, by which Communists attempt to create sympathizers and supporters of their program." (Congressional Record, September 24, 1942, p. 7687). The National Federation for Constitutional Liberties has also been cited as "subversive" and "Communist" by the present Attorney General. (Press releases of the United States Civil Service Commission dated December 4, 1947, and September 21, 1948.)

Harlow Shapley was one of the signers of the *New Masses* letter to the President, according to *New Masses* of April 2, 1940, page 21. Both the Special Committee on Un-American Activities and Attorney General Francis Biddle have cited this publication as the weekly organ of the Communist Party (committee reports of June 25, 1942, p. 4, and March 29, 1944, p. 48; and Attorney General Biddle, in the Congressional Record, September 24, 1942, p. 7688).

Harlow Shapley was one of the signers of a statement in defense of Gerhart Eisler which was printed in the *Daily Worker* of June 28, 1947, page 6. On February 6, 1947, the Committee on Un-American Activities held public hearings on Gerhart Eisler. In the hearings, Gerhart Eisler was revealed as an international Communist agent directing Communist activities in this country.

What I have cited is but part of the records of the Special Committee on Un-American Activities with reference to affiliations and activities of Dr. Harlow Shapley, by I think it is enough to be sufficiently informative.

Now, finally, the very pertinent question arises as to whether Dr. Shapley actually participated in conferences with governmental authorities concerning the provisions to be included in a National Science Foundation bill. In that respect, I think convincing proof is readily available.

I have before me a copy of the Congressional Record of May 5, 1948. On page 5434 of the daily Record for that day appears a speech of Senator Smith with reference to the National Science Foundation bill which was then pending in the Senate. In that speech, and recorded on that page, Senator Smith included a letter, dated May 5, 1948, which he had just received from the Director of the Budget, the Honorable James E. Webb. I quote for your information a passage from that letter of Director Webb, which appears on the page indicated:

As you know, in all of our discussions concerning the organization of the Foundation, the awarding of contracts had been vested in the Director with the concurrence of the executive committee. In this way, both the interest of the scientists and the interest of the Government were adequately safeguarded. Without the safeguarding of both of these interests the bill is subject to one of the major criticisms advanced by the President in disapproving S. 526.

Now listen to this, and remember that I shall still be quoting from that letter from the Director of the Budget:

This was a key point in previous drafts of the bill to which Dr. Shapley and Dr. Bush fully agreed.

Note that priority of mention is even given to Dr. Shapley over that eminent scientist, Dr. Bush. Note also that Dr. Shapley had been consulted about such proposed legislation even prior to 1948.

Well, gentlemen, the records speak for themselves. I think any loyal American can interpret their import with reasonable accuracy. When did Dr. Shapley first get interested in such legislation? Maybe you can find out. At least we know that it antedates 1948. What was the original source of this proposed enactment? Wouldn't it be wise to endeavor to determine that before taking action on this bill? Surely even the disclosed facts are enough to arouse suspicions and put us on notice that in the original conception of the suggestion may have lurked a desire of other than American origin to lead us to abandon our time-honored principles and systems. It is certainly a very serious decision which faces you.

Of one thing we may be very sure. The American pre-eminence we have attained has not been based upon the centralization of arbitrary power in government. That's a doctrine of certain foreign regimes, and it is becoming increasingly evident that they wish us to adopt it to their own totalitarian advantage. Our progress has come from that rugged individual upon whose freedom of action our governmental philosophy has been predicated, an individual laboring under the incentives of our Constitution and laws to give full expression to his God-given ingenuity in creative accomplishments for our progress. And, oh, how well the achievements of that unhampered individual have proved the wisdom of our policy. From the cellars and garrets of these humble, but independent, folk have emanated the forces of American greatness. Let us be sure to remember that. Surely no such legislation as this is necessary to inspire loyal American scientists to do their duty, and isn't it equally clear that no step should be taken which could diminish the ardor or the effort of those who have taken us to the forefront?

As I conclude, let me draw an analogy from an incident recited in the Scriptures. You remember that the great prophet Elijah was once in a land of drought and that he received a command from on high to go to a little brook called Cherith. He was told that there he would

be fed by the ravens and that he could drink the water of the brook. And then the Scriptures go on to say:

And it came to pass after a while that the brook dried up.

Gentlemen, if we decide to follow the un-American philosophy of establishing governmental institutions to centralize and dominate the field of research and thereby diminish or destroy the incentives of that rugged American individual to work for the advancement and the welfare of our country and the world, let us bear in mind that the source of the water in the brook of our preeminence is destined to dry up.

When I contemplate the hardships and the privations and the suffering and the courage of those brave souls who made possible our American way of life, so productive of the blessings of liberty that have glorified our progress, and then meditate upon the seductive songs of governmental sirens who would lure our ship of state upon the rocks of totalitarian regimentation, my mind and my heart seek refuge in the prayer of the poet:

Lord, God of Hosts, be with us yet; lest we forget! Lest we forget!

MR. PRIEST. Mr. Lanham, I am sure the subcommittee appreciates very much your statement, and most of us, I believe, have served with you and know of your utter sincerity in the position you take, whether we agree with you or not. So far as the fundamental objective is concerned I think we all agree. There is no doubt that there are some different interpretations insofar as the route toward the goal is concerned that we may not agree on. For instance, before opening up for general questions on your statement, in the concluding part of your statement you suggested that—

no such legislation as this is necessary to inspire loyal American scientists to do their duty—

and then you asked the question:

Isn't it equally clear that no steps should be taken which could diminish the ardor or the efforts of those who have taken us to the forefront?

I agree with you fully that legislation should not be necessary to inspire American scientists to do their duty. I have studied the reasons, as I see them, for a National Science Foundation for a good many years pretty carefully. I have felt for 4 years, at least, at the beginning of this study, that all the economic factors indicate that if we are to give opportunity to the American scientists to do the job that we want to do, to do that duty that you referred to, from some source the economic aid must be obtained. Private foundations can no longer, it appears, do that job. I read an interesting article in the New York Times magazine section Sunday on that very question, showing how the assets of private foundations are drying up, that they are no longer able to finance on the broad scale that they have in the past this basic research.

For that reason, I have been pretty firmly convinced in my own mind that the Government, without attempting to bind the mind of the scientist, without attempting to interfere with his freedom of action and his freedom of thought, should step into this picture and provide, particularly in the form of grants, scholarships, and fellowships some opportunity to permit the carrying forward of research, basic research primarily.

I am not particularly interested in the applied research. Our industrial system will take care of that. But in basic research I feel that we can no longer depend, as we have in the past, on Europe. Most of our basic research did come from Europe prior to, say, the last decade. We can no longer depend on that. We must step in as a government and project the Government into this field to provide with the minimum of restrictions and the maximum of freedom this opportunity for scientists to pursue basic research.

There are one or two other points that I wanted to mention in connection with your statement. I am not at all interested in carrying out any alien philosophy. As to Dr. Shapley, I have had no direct connection with him whatsoever. I do know him to be a very distinguished scientist. My first interest in this legislation came, as I stated in the subcommittee the other morning, when Dr. Vannevar Bush called me, Mr. Mills, Senator Magnuson, and a few of us back in 1945 to a little conference at his apartment to discuss the report known as "Science, the Endless Frontier."

I would like to emphasize that I have no interest, and I am sure this committee has no interest in making any departure that would in any way encourage alien philosophy in connection with this legislation.

With reference to the statement that you read that indicated that Dr. Shapley and a group that he represented might be rather influential in picking the membership of the Foundation or at least in submitting a list, it seems to me that the provisions in all of these more or less identical bills on the membership of the Foundation tie it down rather tightly, if we might put it that way, requiring Senate confirmation, requiring that all these persons selected shall be eminent in the field of medical, biological, and research in all of the sciences mentioned. I don't believe that we are very apt to get on a foundation of this sort that has to be confirmed by the Senate any persons who would advocate any dangerous alien philosophy. I just have that confidence in the appointment of the President, whoever he might be, and in the Senate of the United States.

There is one other point, and then I shall not monopolize questioning here. That is with reference to whether those who are working under scholarships or fellowships were employees of the Foundation.

Mr. LANHAM. Of the Government.

Mr. PRIEST. Of the Government; yes. That question has come up before in consideration of this legislation, and whether the bill makes it clear or not, it certainly should be made clear that they are not employees of the Government in any sense.

Mr. LANHAM. If you have concluded—

Mr. PRIEST. For the time being, at least.

Mr. LANHAM. May I say in response to what you have just said, make a brief statement. Of course, the chairman and many members of this subcommittee, whom I have known for years and with whom I have had the privilege and honor of serving, know that I have for them the very highest regard. I would not for one moment impute to them the holding of views that are characteristic of Dr. Shapley and his attitude. I did think it worth while, however, to bring to your attention in the light of his record the very clear and convincing proof that he has been interested in legislation of this character and has been conferring with governmental authorities concerning it.

From the standpoint of where the money is to come from, most of the witnesses that have appeared before this committee have had naturally the selfish interest of getting some money from the Government for the various institutions of different kinds that they represent. We all know that the Government hasn't any money except what it takes from the people and that the Government is now very deeply in debt, so much so that any child born in the country today likely has an obligation to Uncle Sam of perhaps approximately \$1,500 hanging around its neck.

Individuals are making very great contributions today to scientific pursuits. I know there are a great many in the State where I live who are being very helpful in this regard. Just think, for instance, of what is being done with reference to cancer today, trying to find the cause and cure of cancer with private funds.

I have been so much convinced by my service here, my experience, reinforced by the very able statement of the chairman of this committee, that throughout our history the very basis of our progress has been this rugged individual upon whom American advancement has been predicated. Take the Wright brothers. Leonardo da Vinci laid down some principles of flying—

Mr. O'HARA. Will the gentleman yield a moment?

Mr. LANHAM. Just a minute. Langley, another scientist, worked on that. Who finally gave us aviation? And perhaps it is basic. Two men who, as I recall—and they richly deserve all the honor that has come to them—were at that time bicycle dealers. I think you will find all the way through our history that the instance after instance of a similar kind could be cited.

Mr. O'HARA. Did they get any governmental aid?

Mr. LANHAM. None whatever. If you will look through the catalog of American accomplishments—and perhaps the Patent Office could help you somewhat in that regard—you will see that perhaps most of our useful inventions that have meant so much in the daily life of every American have come from those little fellows with their little shops who get an idea and then in their garrets or in their cellars, and free under the incentive of our economic system, work and work and work until finally, unhampered by anybody, with not even an intimation that the Government is going to come in and interfere with them, arrive at something of practical utility. What does the patent law do? The patent law simply says to the inventor, because of your wonderful efforts, the sacrifices you have made, and the fact that you are going to give this discovery to the public and that all the world can have it, we are going to allow you a little period of years in which you can have the exclusive right to get something to reward you for your labors. That incentive has led these humble people all over the country to give us our outstanding inventions. If you will look through the history of our American inventions, you will find that they have emanated very largely from just such sources.

I made a reference to a bill which became a law and which I sponsored, which was enacted shortly before our entrance into World War II when every indication was that it was going to be necessary for us to enter that war, calling upon the American people in effect to submit, and submit to be kept secret, inventions that were primarily useful for our national defense. While that law was still in opera-

tion, from a thoroughly reliable and very high authority I was advised that at that time there were over 9,000 inventions being kept secret that had been supplied by these humble American folk, and that their efforts far exceeded everything that Hitler had been able to accomplish.

Do you know what led to the introduction and the passage of that law? Let me tell you. One of the agencies of our Government engaged in our defense and security, through its research department—and bear in mind that our Army and our Navy and our Air Force, and so forth, have their research departments to which we contribute from the Federal Treasury many millions of dollars each year discovered a very important idea for our defense. Of course, it was being kept secret. There was an old gentleman, as I remember he was past 70 years of age, who had never invented anything in his life, who in his little basement or humble home hit upon that idea, and he filed an application for a patent, and he had priority of invention. There wasn't any reason in the world that the Patent Office could give to refuse a patent, but they called that old gentleman in, a very patriotic citizen, and they explained the situation to him, and of course he said, "Well, now, we will just forget it. Go ahead. We will just let this rest for the whole. I won't pursue it."

Gentlemen, if you will just look through our history—go back and read what Thomas Jefferson said and how in the early days of our Republic he was so surprised at what we were accomplishing through our patent system and the incentive that it gives to this rugged individual—you may be surprised to see where these wonderful inventions come from. Aviation came from over here. The submarine came from over here. You can go on and mention all kinds of things that came from these humble individual American folk.

Mr. PRIEST. On that point, Mr. Lanham, most of these things that you have mentioned here as examples are the applied techniques, the applied research, the industrial techniques applied to a basic research discovery that has been made in a laboratory somewhere.

Mr. LANHAM. How about aviation? Is that basic?

Mr. PRIEST. The science of aerodynamics is basic, and that far antedates the actual perfection of a heavier-than-air craft; that is, the study of the science of aerodynamics.

Mr. LANHAM. But it had no practical worth or utility in aviation until finally the Wright brothers put it into effect.

Mr. PRIEST. The point I asked you to yield on is simply this: If you felt that the individual's rights were adequately protected in this bill insofar as a patent on inventions are concerned, and that the foundation would devote most of its time and effort and energy and what funds it gets from the Congress to broad, basic research that is envisioned as the major part of the program, if you felt that those conditions were met, then how would you feel about the legislation?

Mr. LANHAM. In the first place, I do not think that all basic research in its productiveness would come from any such source. I don't think it has come from such sources in the past.

In the next place, even if you should eliminate the patent provisions—which in my judgment should be studied very carefully and very long in hearings by the committee having jurisdiction of patents under our Legislative Reorganization Act—in addition to the fundamental objections which I have recited to measures of this kind as

being interference with our traditional and constitutional American policy, you still have the provision that this Foundation can take any property of anybody that it decides has either resulted from scientific research or that is useful for scientific research. You do not propose to establish any laboratories or pilot plants. What would the Foundation do with that property?

Mr. O'HARA. Would you enlarge upon that point? I never have had the thought that this bill, with some misgivings that I have had, went that far, Mr. Lanham. You say they can take it. How can they take it, except as it might apply to an employee or someone who is being paid, whose education or whose study is being paid for by the Government?

Mr. LANHAM. In section 11 of H. R. 12 we have this language:

The Foundation is empowered to do all things necessary to carry out the provisions of this Act, and without being limited thereby, the Foundation is specifically authorized * * *.

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease or loan, real and personal property of all kinds necessary for or resulting from scientific research.

That is a very broad authority. It certainly, in my judgment, includes condemnation.

Mr. O'HARA. I don't think so, Mr. Lanham.

Mr. PRIEST. I don't think so, either.

Mr. LANHAM. I think perhaps you will have some further testimony in that regard. Consequently, I did not dwell upon it.

Mr. O'HARA. It is the usual corporation language, the enabling corporation language, which permits a corporation to do business, but certainly it doesn't give it the right of condemnation or acquisition other than by purchase.

Mr. LANHAM. But condemnation is purchase.

Mr. O'HARA. If you are right, Mr. Lanham, we certainly want to do something about it.

Mr. LANHAM. You are going to have to look into that section, in my judgment, very, very carefully. This Foundation is not going to establish any laboratories or pilot plants.

Mr. O'HARA. No.

Mr. LANHAM. Then why are they going to be taken unless the Foundation is going to turn them over to some of these people who are trying to be beneficiaries of governmental grants?

Mr. O'HARA. Your point is, Why do they need that power?

Mr. LANHAM. Why do they need it unless they are going to turn the property over through their contracts to somebody who has a governmental grant to carry on? What necessity is there for it? They are not going to run any plants themselves.

Mr. PRIEST. That question was pretty fully developed in discussions last year. I am sure we will give it some more attention. I feel that other members of the committee might have some questions.

Mr. LANHAM. I think that will need a great deal of thought and study.

Mr. PRIEST. You may be assured that it will receive it. To add to what Mr. O'Hara said, in adopting the language last year, the committee was of the unanimous opinion, after thoroughly exploring it, that condemnation was not involved.

Mr. Sadowski?

Mr. SADOWSKI. First of all, without being facetious, I would like to suggest that maybe your statement is a little out of context in one place. After you get through with your great exposition of Dr. Shapley on page 11, don't you think that you ought to insert those last two paragraphs on page 6 where you cite from the statement made by Chairman Crosser in which he refers to Thomas Jefferson. Then after we get all of this stuff from the Un-American Activities Committee and others who are trying to shape Dr. Shapley's mind, suppose we would insert there then:

It is, therefore, the duty of everyone to be on guard against any interference with the freedom of the mind. Remember those words of Thomas Jefferson—and let me remind you that Thomas Jefferson was the father of our American patent system at the very beginning of its operation—

"I have sworn, upon the altar of God, eternal hostility against every form of tyranny over the mind of man."

Because of fear of economic power, social ostracism, ecclesiastical censure, scholastic scorn, or governmental oppression, men have refrained from responding to their inspirations and highest intuitions, and so mankind has been denied the benefit of incalculable good which would otherwise have resulted from the unfoldment of truth in human experience. * * *

Government should prevent men's infringement of each other's rights and should assure equality of opportunity to utilize the bounty supplied by the Creator.

That also goes for the mind, man's thinking.

* * * That done, the individual, in the free play of his individuality, will develop capacity and ability not possible for the man whose actions are so constantly directed by governmental authority as to make of him a mere mechanism.

It seems to me that should follow after page 11 after you cite all these condemnations against Dr. Shapley, because to my mind Dr. Shapley is a great educator and a great man and a great intellectual.

Mr. LANHAM. Do you contend—

Mr. SADOWSKI. I don't think he is Communist just because a man thinks differently from you. He still has that right, and you stated here that that right should go to other people, but not, in other words, to Dr. Shapley. I think it goes to Dr. Shapley and others as well.

Mr. LANHAM. To be sure; I made no personal references of any opinion of my own concerning Dr. Shapley.

Mr. SADOWSKI. There are about 2½ pages of reference to Dr. Shapley.

Mr. LANHAM. I simply quoted the records.

Mr. SADOWSKI. It is the most derogatory I have ever read of any man.

Mr. LANHAM. It is simply a quotation from the records, if they are derogatory. But I did want to show that he has been consulted by governmental authorities about the provisions of legislation of this character. I do not think there is any inconsistency in the two passages quoted from my statement. I will say to my friend from Michigan, for whom, as he knows, I have a very high regard, that there is no inconsistency whatsoever in the statements to which he has referred, because, if under our traditional and constitutional system of Government Dr. Shapley can present something which will be helpful for American progress, of course we would all be glad to have it.

Mr. SADOWSKI. Certainly. He may not agree with you and your way of thinking, but he is a great American and a great educator and not a Communist.

MR. LANHAM. What I am pleading for is to leave free this individual who has been the backbone of our progress in accordance with our traditional and constitutional policy. If Dr. Shapley can come along and give us something that will help, by all means let us have anything we can get from any source.

MR. SADOWSKI. It may even be possible that Dr. Shapley may understand the teachings of Thomas Jefferson more greatly and more nobly and more deeply than some of us.

MR. LANHAM. I do not know to what extent he has studied Jefferson's writings and so forth. I have studied quite a bit about Thomas Jefferson and of course with special reference recently perhaps to his interest in the patent system and getting it started for this country.

MR. PRIEST. Mr. O'Hara?

MR. O'HARA. Mr. Lanham, as you know, I have very high regard and very deep personal affection for you.

MR. LANHAM. Which is reciprocated in full.

MR. O'HARA. I submit that you have given us something to think about, and while I know nothing of Dr. Shapley, if you are correct I am rather concerned about some of the people he associates with if he is going to be of some power or some eminence in this Science Foundation which is to be created. I would suggest, Mr. Chairman, that in view of what has transpired this morning, we invite Dr. Shapley to appear before the committee and testify. If these findings bearing upon Dr. Shapley by the Un-American Activities Committee and the Attorney General's office are wrong, maybe we ought to let Dr. Shapley testify. I certainly think it enters into my concern about what we are doing in this bill.

MR. SADOWSKI. The point I make, Mr. O'Hara, is that Dr. Shapley's ideas as to the political freedom of man's mind or the freedom of a man's mind as to political ideas, political thoughts, views, and his conceptions, are his own personal opinion. I, too disagree with some of our international policies.

MR. O'HARA. I grant that, but I am concerned. I am certainly concerned that we are dealing with things that concern our national defense. I think if we are dealing with a problem that certainly is something that is going to involve the national defense of this country, then one of two things is true: Before we do it we had better be sure of what we do and to provide the proper safeguards that no one be appointed as Director or member of the Foundation whose patriotism there is any question about, Mr. Chairman.

MR. LANHAM. May I say just one word there? Of course I do not know Dr. Shapley. I do not say that he is not a very eminent scientist. I may add I made no personal attack upon him unless that is involved in a citation of the record. It is very clear that he was conferring with governmental authorities about legislation of this character. Of course, I would have no objection whatever to having Dr. Shapley come before your committee and perhaps you could determine from him when he first became interested in legislation of this character and to what extent he has participated in the formation of the policies represented in the bill.

MR. PRIEST. The Chair will take the suggestion of the gentleman from Minnesota under consideration, and we will discuss that in an executive session of the subcommittee and reach a decision on that point, but not at this particular moment.

(Discussion off the record.)

Mr. PRIEST. Dr. Granahan?

Mr. GRANAHAN. I have nothing.

Mr. PRIEST. Mr. Bennett.

Mr. BENNETT. Yes; I have one or two questions.

Mr. LANHAM, I am not entirely clear on this patent section of the bill, and the more testimony I hear on it, the more confused I become. I wonder if you would tell us what in general would result from this scientific research that might in the first place be patentable under our present laws.

Mr. LANHAM. No; I am not an expert. I have had a great deal of legislative experience with reference to patents. The technical features of patents of course, would be beyond my ken.

Mr. BENNETT. It has been my understanding that certain scientific formulas, for example, are not patentable; that in order for an art or for a mechanical device to be patentable under our laws, it must be either an art or a mechanical device of some sort.

Mr. LANHAM. Yes. The constitutional provision is for the promotion of the sciences and the arts.

Mr. BENNETT. And that formulas as such—for example, the penicillin formula is not patentable?

Mr. LANHAM. Of course, that is a question upon which I could not pass. It would involve a particular product as to whether or not it was patentable. I think those who are familiar with the technicalities of patent administration would have to answer that question.

You will recall that in his testimony yesterday the Commissioner of Patents stated that he thought it was a debatable question whether or not the Government had any right to own a patent. Of course, the Constitution doesn't give any such authority. The same provision in the Constitution which deals with patents deals also with copyrights. For that reason the arts and sciences are both mentioned, because each is something that is progressive and helpful and will stimulate individuals to carry on along those lines for a term of years and have certain exclusive rights. However, our patent laws have been amended from time to time, and with reference to anything secret that may be discovered, and which the Government wishes kept secret, it can be kept secret by filing an application for the patent. Of course, when anything goes to the stage of patent, it is known to all the world, as you probably know. For instance, Russia has been getting copies of all of our patents.

In the matter of keeping an invention secret, the Government has a very great advantage under our patent laws over the individual. If you, for instance, Mr. Bennett, should have an invention and apply for a patent, if within 3 years you did not take some active step with reference to getting your invention patented, it would be considered under our laws that you had abandoned the application. That is not the case with the Government. The Government can get 3 years more and then 3 years more and 3 years more and 3 years more, and I think you will find that there have been instances where inventions have been kept secret for as long as 25 years. The citizen has no such right.

So anything secret that would be discovered would not go to the stage of patent. Something that was useful for our defense and our security, of course, would be kept secret and could be kept secret indefinitely under our patent laws by the Government.

Mr. BENNETT. What is bothering me is whether there was any way of trying to determine just what types of information might result from the investigations and research of the Foundation that would be patentable. In other words, is a scientific formula as such patentable?

Mr. LANHAM. As to what is patentable and what is not patentable, that is a very technical question, of course. Let me say this: If anything discovered by the Foundation, if the Foundation should be established, should reach the stage of patent, then by all means, in my judgment, and as I recall as included in the original bill which the distinguished chairman of this subcommittee first introduced, that invention should be placed in the public domain to be used by anybody.

The restriction with reference to such a patent in this bill is very great. Instead of putting such an invention that has gone to the stage of patent in the public domain to be used by anybody for the betterment of our country, it says no, there can't anybody use that except the Government's nominee, although the whole world knows about it. Nobody, we say, can use it, but we will just turn it over to some manufacturing concern and give them the full right under it, and nobody else can use it, although the concern to which it would be turned over would have nothing whatever to do with the discovery.

Mr. BENNETT. It is clear to me that as a result of this research, if one of these scientists discovered something that we would regard as a device, for example, to use on a buzz bomb or on an airplane, that would be patentable. What I am trying to get at is what about this other information that a scientist may develop as a result of his investigations? If it involves a scientific formula, say a cure for cancer—

Mr. PRIEST. Will the gentleman yield there just for a second? We have a representative from the Patent Office here.

Mr. LANHAM. May I say before he speaks, for instance, that there are other things besides devices included in our patent laws. For instance, we have patents on plants, and then we have patents for designs. Mr. Federico, a most eminent authority in the Patent Office, who has been connected with the Patent Office for many years can give you the technical information you seek that of course naturally I would not have.

Mr. BENNETT. I should perhaps ask him.

Mr. PRIEST. Would you care to comment there? Particularly, as I understand, your question is with reference to a formula, biological or chemical formula.

Mr. BENNETT. I am wondering what this section really covers. It refers only to patents and I am wondering what part of these investigations might be applicable to patent procedures.

Mr. PRIEST. [To Mr. Federico.] Would you clarify that insofar as you can?

STATEMENT OF P. J. FEDERICO, EXAMINER IN CHIEF, UNITED STATES PATENT OFFICE

Mr. FEDERICO. My name is P. J. Federico. I am an employee of the Patent Office and am here on behalf of the Patent Office. I probably could give a little information on the broad question that was asked

as to the nature of things that can be patented and the results of basic research that would be patented. By statute the subject matter of patents is limited in a broad sense to the invention of concrete objects—articles—and also processes, mainly industrial processes. The statute specifies machines, whose meaning is obvious, manufactures, meaning things that are manufactured, the compositions of matter, chemicals and things of that sort; and arts, by which it is interpreted to mean processes, mainly industrial processes for making some of these other things. So the patent laws are directed primarily to the results of what you might call technological invention.

There is invention in other fields, and the broader word “discovery” is also used. It has been ruled on, and the interpretation of the laws has drawn some distinction between inventions which can be patented and scientific discoveries. As a general principle it can be said that scientific discoveries cannot be patented. You could give illustrations of those. For instance, the theory of relativity and discoveries of that sort. Einstein’s equation for mass energy, which has been very fruitful in subsequent discoveries. Things of that sort cannot be—

Mr. CROSSER. Newton’s Law.

Mr. FEDERICO. Yes; the law of gravity, also the invention of logarithms, the invention of the calculus. Those are inventions just as much as the invention of a gadget, but they are not in the field of patentable inventions.

When it comes to basic research, what we ordinarily understand by basic research, the results are ordinarily and preponderantly of the type that cannot be patented. You cannot say that nothing that will result from basic research can be patented. All you could say is that the results are usually of the character of discoveries that do not fall within the field that can be patented.

Mr. BENNETT. That is just the point I was making.

Mr. FEDERICO. Yes.

Mr. BENNETT. There is very little, perhaps, that would result from scientific research under the terms of this bill which would as a matter of fact be patentable at all.

Mr. FEDERICO. You cannot say that nothing would.

Mr. BENNETT. No.

Mr. FEDERICO. Because things are discovered and invented right along, but the proportion would be minor. I think the Commissioner said yesterday that from the standpoint of the objects of the bill as a whole, the patent matters here are very minor and incidental parts.

Mr. BENNETT. I didn’t hear this testimony, but I am glad you made that clear, because it has created doubt in my mind as to just what importance that patent provision actually was as far as the prime purpose of this bill is concerned.

Mr. FEDERICO. Insofar as the primary object, basic research, the patent provision is purely incidental. It probably cannot be ignored entirely because there will be some results of a patentable nature, but only very minor in quantity.

Mr. BENNETT. Thank you.

Mr. SADOWSKI. May I ask a question?

Mr. PRIEST. Yes.

Mr. SADOWSKI. I believe that the basic thought behind this bill is to make available all the new knowledge that may become known as a result of the work of the Science Foundation to all the people

of the United States. I believe the purpose is not to stifle the development of knowledge of science, but to make it flow easily and readily to all people and make it available to all industry and every one so as to better the living conditions in this country and in the world.

In your experience with the Patent Office, and I am speaking now not as an expert on patents, because I know practically nothing about it. Many lawyers know some law, but when it comes to patents it is a technical thing, and the general practitioner knows little about it. We hear various rumors, for instance, that certain discoveries were made and ideas were patented which would improve the carburetor on an automobile whereby you could get more mileage from your gas, and things of that sort float around. For instance, in my city of Detroit, many rumors come out about new ideas, and the statement is then made that some big corporation bought up those patent rights and is sitting on them and will not use them because it may interfere with some other group in industry, perhaps the oil industry, perhaps some other industry. It may interfere with the great investment that they already have in the manufacturing of certain items in a certain way, and they don't care to transfer over. Therefore, they sit on this new idea, this new thought, this new invention, and don't use it and don't give the benefit of it to the public generally.

In your experience in the Patent Office, have you found those things to be true or not?

Mr. FEDERICO. You are asking a question that would cover quite a lot of ground to answer adequately, but I might make a very brief statement on that point.

The question has been raised time and time again, and searches have been made to find such patented inventions that have been suppressed. Theoretically, under the law, the inventor has the exclusive right—he actually has the exclusive right to make and use his invention and theoretically he could refrain from using it and prevent anybody else from using it. But in practice suppression of the nature you mentioned doesn't occur. It just doesn't work. It is true that a large fraction of patent inventions are not used. Nobody knows just what fraction. My own belief is that it is well over half. They are not used commercially for one reason or another. They are not worth anything commercially, a large number of them. It may be a device that will operate but nobody would buy it or it would cost too much to make, and so forth.

Mr. SADOWSKI. So the theory of suppression is not well grounded in your opinion?

Mr. FEDERICO. I wanted to elaborate a little bit further. Many inventions are alternative methods of doing the same thing. In many instances choices have to be made as to which is best for the particular occasion, and the ones that are the worst are not used. So there is nonuse in that sense.

This particular story you mentioned of the carburetor I happen to be interested in for this reason: When the gasoline shortage was very acute and Mr. Ickes was beginning his campaign on saving gasoline, and a reporter on the Washington News heard this story of the carburetor that would give 50 miles to the gallon, and that that was suppressed by the oil companies. He started out to find it. He visited the Bureau of Standards and the Patent Office, and the Department

of Justice. He wrote to various organizations that would be keen on finding a thing of that sort, to try to locate it and get the full story. He was unable to find anything that established it as being more than a myth.

Mr. SADOWSKI. Were you able to find it?

Mr. FEDERICO. No.

Mr. SADOWSKI. Did you try to find it?

Mr. FEDERICO. I will explain. I personally didn't make any particular search through the patented carburetors, but they are all there available, and anybody who knows the field can search them and study them. Just recently one of the oil companies wrote a story on that same carburetor, of which I could send you a copy if you would like to read it.

Mr. SADOWSKI. I have heard so much about it I would rather not see the copy. I have too many other things to read.

Mr. FEDERICO. Most things of that nature, important inventions, inventions that will make other things obsolete, and so forth, evaporate when you get closer to their source. somebody heard it from somebody else, and they evaporate. You don't get to facts. There are very few facts behind them.

What leads to those stories is probably that it is something that is theoretically possible. I mean conceivably possible, and there is an appealing sound in a story of that sort.

Mr. O'HARA. Right at that point, Mr. Federico, it is true that unless the Government was involved, the advantage of their patent would run out in 15 years, would it not?

Mr. LANHAM. Seventeen.

Mr. FEDERICO. Yes, after grant. Of course, there is quite a good deal of competition in new things by virtue of patents. If some big company got a patent on a very important device that they weren't using, the people in this country are clever enough to find some way to use it despite their wishes not to have it used.

Mr. SADOWSKI. In other words, 17 years after the filing of a patent, whether a man uses it or not, his rights disappear and he cannot renew his rights after that, can he?

Mr. FEDERICO. After the expiration there is no exclusive right in existence at all.

Mr. SADOWSKI. Except that he could take the same patent and add some other little thing to it and repatent it as a new patent.

Mr. FEDERICO. He could get another patent on an improvement. So could anybody else.

Mr. SADOWSKI. Using the same idea he had previously?

Mr. FEDERICO. It would have to be an additional idea.

Mr. SADOWSKI. An additional idea to the old idea which he hadn't used for 17 years. If he put an additional new idea to that one and incorporate the two together, he could again file for another 17 years.

Mr. FEDERICO. Yes; but the patent would only run to the addition. Anybody else could still freely use the original and their own improvements.

Mr. SADOWSKI. He couldn't make it all part of one all over again.

Mr. FEDERICO. No. The description would be there, but the second patent would only run to the additional improvement. Usually with important inventions, by the time the 17 years have run out there are

hosts of improvements that have been invented by others, so it would be diffused. There wouldn't be any more concentration in one hand.

Mr. PRIEST. This is an interesting discussion——

Mr. LANHAM. I wanted to put in one pertinent thing along the line of suppression of patents which a great many authorities show is not being done. But of the peculiar stories that go about I think this is indicative of some of them. I heard this one: That there had been a supervitamin discovered that was so effective that if a dentist would extract a tooth and put this supervitamin in the cavity, a new tooth would grow, but that the dentists were suppressing that invention because it would be money out of their pockets.

Mr. SADOWSKI. That one I hadn't heard of.

Mr. PRIEST. Mr. Bennett?

Mr. BENNETT. I have just one other question I would like to address to the chairman and the author of H. R. 12 on this patent thing. I understood him to say this morning that students or people who had scholarships would not be regarded as employees under this section.

Mr. PRIEST. Those under scholarships or fellowships are not regarded as employees of the Government.

Mr. BENNETT. So a fellow with a scholarship or a person with a scholarship or a fellowship could have the complete benefit of any device that was patentable that he might devise as a result of his work with the Foundation.

Mr. O'HARA. Except that he might be further restricted by his contract with the particular foundation or school that he was working with.

Mr. PRIEST. Yes. That might enter into it. Let us say that a student has a scholarship at Johns Hopkins. The terms of the contract that he has with Johns Hopkins for carrying out the work under the scholarship would be the determining factor in that respect. Otherwise, he would be unrestricted except as the contract with Johns Hopkins might restrict him.

Mr. BENNETT. He would be a free agent. As far as his information was concerned he could use it any way he wanted to.

Mr. PRIEST. A free agent in negotiating the contract with the university that he might attend.

Mr. BENNETT. But the minute he got over his scholarship and got to be an employee of the Foundation, then he wouldn't have that protection.

Mr. PRIEST. If he was an employee of the Foundation, he would not have.

Mr. BENNETT. It seems to me that is a pretty thin line to draw. I should think that some language could be devised here to spell out the rights of every person who might become an employee, who might go to work for the Foundation. Let us put it that way. So that he, as a result of his own efforts would be protected at least to the extent that he would be entitled to reasonable compensation as a result of his own initiative and his own endeavors, because if you don't have some kind of protection like that you sort of stifle, it seems to me, the efforts of an individual scientist working for this Foundation. There is no pecuniary reward to him whatsoever. In other words, under the present language he is simply at the mercy of whatever the Directors of the Foundation may see fit to give him.

Mr. O'HARA. It would also apply, on the other hand, to employees.
Mr. BENNETT. That is what I mean.

Mr. PRIEST. If I might add a point here, I think we should understand that this Foundation will have very few employees, actually. The organization is not an agency that will have very many employees because most of its work is done under contracts with colleges and universities and industrial laboratories where contracts are signed with these institutions and research agencies. As such, the Foundation would have a few actual employees, enough clerical help, and a few advisers, employees of that type directly employed by the Foundation.

As I see it, that entire section, if it were not in the bill, it wouldn't make a great deal of difference, frankly, so far as the operation is concerned. There might be a few instances in which it would be necessary.

Are there any other questions? Mr. Stanley, do you have any questions?

Mr. STANLEY. I have no questions.

Mr. LANHAM. Mr. Chairman, before you adjourn, may I thank you for your very patient and courteous hearing. I know through long association with so many of you that you have exactly the same interest that I have, and that is to protect this country of ours and maintain its preeminence. I did think it worth while to call attention to what I believe is some of our fundamental philosophy.

Mr. PRIEST. Thank you, Mr. Lanham.

The subcommittee will stand adjourned.

The following was submitted for the record:

AIRCRAFT INDUSTRIES ASSOCIATION OF AMERICA, INC.,
Washington 5, D. C., April 5, 1949.

Mr. ROBERT CROSSER,

*Chairman, Interstate and Foreign Commerce Committee,
House of Representatives, Washington, D. C.*

DEAR MR. CROSSER: The patent committee of the Aircraft Industries Association suggests that the committee report on section XI of the National Science Foundation bill S. 247, and related House bills state that the interests of the Government and of individuals or organizations contracting with the Foundation are to be recognized; otherwise, by inference, section XI as presently written may be construed as taking away the rights of such individuals or organizations. To accomplish this clarification, we request that the following statement be included in the report of your committee:

Section XI of this bill is designed and intended not only to protect the public interest by securing to the Government a free license to make, have made, use and sell or otherwise dispose of in accordance with law inventions made in the performance of any contract entered into with the Foundation under the provisions of this bill, but is also intended to insure an incentive to the individual or organization contracting with the Foundation by preserving to the contractor the commercial rights to such inventions."

We are sorry that previous commitments prevented our appearing in person at the hearing and we trust it will be possible to include this letter in the record.

Thanking you, we are,

Very truly yours,

STEPHEN CERSTVIK,
National Chairman, Patent Committee.

(Thereupon, at 12:15 p. m., the subcommittee adjourned, subject to the call of the Chair.)

NATIONAL SCIENCE FOUNDATION

TUESDAY, APRIL 26, 1949

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE OF THE COMMITTEE ON
INTERSTATE AND FOREIGN COMMERCE,
Washington, D. C.

The subcommittee met, pursuant to call, at 10 a. m., in room 1333, New House Office Building, Washington, D. C., the Honorable J. Percy Priest (chairman of the subcommittee) presiding.

Mr. PRIEST. The subcommittee will come to order.

We are meeting this morning for a one-morning session in continuation of hearings on the Science Foundation legislation.

This hearing date was set immediately after we closed hearings, back earlier in the month, in order to accommodate the National Patent Council representative. We had hoped, and we still hope, to be able to conclude this hearing this morning. We were able only to set this one day for that purpose.

We are ready to proceed. Will the witness, Mr. Anderson, give his full name and identify himself for the record, stating his connection with the National Patent Council?

STATEMENT OF JOHN W. ANDERSON, PRESIDENT, NATIONAL PATENT COUNCIL, GARY, IND.

Mr. ANDERSON. Chairman Priest, may I be seated?

Mr. PRIEST. Yes, sir, you may.

Mr. ANDERSON. My name is John W. Anderson. My residence is 578 Broadway, Gary, Ind.

I speak in my own behalf as a citizen and in behalf of National Patent Council, of which I am president.

The council is a nonprofit, nonpartisan educational organization controlled exclusively by smaller manufacturers who are its associates and who operate in many different industries throughout the Nation.

I am president and active administrative head of the Anderson Co., Gary, Ind., which I founded in 1918. My company is in its thirty-second year of uninterrupted research, product development, and manufacture. Hundreds of millions of products embodiments of patented inventions originating and perfected in its laboratories have served and are serving citizens of America and of all other civilized countries. Its inventions have provided for military and commercial uses a sole source of an important type of functional components developed by it to meet military needs.

I have served, during the past 25 years, as president of other national associations of manufacturers and am at present a director of

one State, and three national manufacturers' associations. During three consecutive years of World War II, I served as president of Motor and Equipment Manufacturers Association. I have represented industry on various advisory committees of Government.

National Patent Council is concerned with any movement, condition, or influence that may affect the potency of the American institution of incentive enterprise as catalyzed by the United States patent system.

The council, its members and associates, which include hundreds of men engaged everywhere in research, invention, manufacture, or the practice of professions related thereto, are much alarmed by persistent efforts of other men, coldly fanatical men, alien-inspired, believed to have as their objective the stifling of that incentive to invent and produce which has given to America its phenomenal industrial growth.

Even those carrying most responsibility for the quiet hospitality extended to those enemies among us seem no longer inclined to deny that infiltration of our productive and protective institutions is approaching the point of saturation. That infiltration is by citizens and noncitizens, bearing allegiance to a common and hostile alien handful of cunning conspirators against human liberty everywhere.

The public press and radio now shock us almost daily with new revelations of the depth of penetration by this vast fifth column of underground operatives set upon us by the Kremlin. Constantly more and more Americans are shaken by the realization that they have supported, in good faith often translated into enthusiastic activity, organizations, theories, and legislative programs skillfully contrived to appear inspired by patriotic motives when in fact intended only to entrench the master planners at one or another of what they have termed the vital "nerve centers" of our national economy.

Among the favorable signs, which it is hoped may not prove mere straws, we have frank reversals of opinions and positions, by conscientious Americans who at last have realized how seriously they have been misled.

Men and women in public life, who formerly were innocent relays for the enemy's preachings and propaganda, now seek, by bold denunciations of their erstwhile affiliates, to repair in part the damage they have done.

Publishers formerly transmitting, to the public, viewpoints of editors and writers infiltrating their staffs to use the prestige of the publication as a carrier for narcotic thought, are showing unmistakable signs of a struggle to rid themselves of such influences and reset their editorial and reportorial policies.

Perhaps the most heartening manifestation of growing awareness of the character of the conspirators, and of the subtleties they employ, is to be seen in the stubborn resistance of our Congress to a strange new pattern of proposed legislation that has made clear at last, even to those most reluctant to believe, the unholy strategy and ruthless intent of the master planners, who would entrap all our people through the vanities or venalities of a few of them.

Frightening import of mounting public disclosures suggests a careful examination of facts seeming to warn that the proposed legislation for a National Science Foundation dovetails significantly into this general subversive pattern.

Reluctance to accept such facts as significant can be understood, because such acceptance may mean reevaluation of relationships once cherished and a reclassification of personalities once respected. But such seems to be the order of the troubled days in which we live.

May we first trace, toward its still somewhat obscure origin, the National Science Foundation concept, believed by some to have been spawned somewhere within the long leftist shadow of Henry Wallace? In 1943 Senator Harley M. Kilgore introduced his "science mobilization" bill (S. 702). I was honored by Senator Kilgore's acceptance of an invitation by its publishers to debate that bill with me in the September 15, 1943, issue of *Modern Industry*. Because of its pertinence, I offer herewith, as an exhibit to my testimony, a photostatic reproduction of the original publication of that debate, with under-scoring and other emphasis supplied.

It is interesting to note that it was argued in 1943 by Senator Kilgore, and of course by others, that a tremendous emergency existed, and that the war could not be won without the enactment of his bill for "science mobilization." To quote from my argument in the debate with the Senator, that bill would have placed—

in the hands of a single Administrator, with minor checks and restrictions having partisan political origin and subject to partisan political dominance, the arbitrary power innocently to plant, by his own rules and regulations (which "shall have the force and effect of law") unlimited numbers of assorted monkey wrenches in every part of the machinery of our complex industrial economy.

This same criticism applies equally to the Science Foundation bill recently passed by the Senate.

The present H. R. 12, while in some respects not phrased as frankly as the Kilgore bill of 6 years ago, does present the same general pattern of controls as did the Kilgore bill. The more refined and restrained language of H. R. 12 nevertheless confers upon the Foundation—and, in the version recently passed by the Senate, confers upon the Director of the Foundation alone—the power to destroy the equilibrium of private industrial research programs by legalized trespass thereon. Industry would be disciplined through the manipulation of patent rights acquired by the Foundation. Those rights, as will be shown, could be taken from the citizen through condemnation proceedings if such were the will of the Foundation. And the trespass may be expanded by similar acquisition, retention, and/or transfer of other property, real or personal, conveniently regarded by the Foundation as "necessary for, or resulting from, scientific research" (sec. 11 (e) of H. R. 12).

In substance, many of the same arguments used in support of the Kilgore bill are now being used to support H. R. 12 and its companion bills, to which this statement is directed. The testimony and exhibits in hearings on the Kilgore bill, before a subcommittee of the Committee on Military Affairs in the United States Senate in the Seventy-eighth Congress, are voluminous. In their testimony, proponents of the bill argued that industry could not cope with the technological problems presented by the war and that only Government control in fields of research and invention could bring victory. Now we are told that national security again is in jeopardy because the citizen still may follow his research programs without legalized trespass by mental

policemen and procurers of Government. Senator Kilgore in his debate above referred to made the following amazing statement:

This is wartime, and technology cannot be permitted to develop on commercial terms. We cannot afford the peacetime luxury of finding the best techniques by trial and error. In wartime we must have the best at once, and put it to use without a moment's delay. Government initiative is required—these steps will not be taken without it.

Why has Senator Kilgore withheld from industry, since 1943, his information as to how solutions of involved research problems can be had at once and without trial? Has he not overlooked here an unusual opportunity for public service?

Seriously, is there not in the Senator's statement above quoted a warning that the "best at once" thinking of the master planners would be hard indeed to live with under the broad grant of power proposed in these Science Foundation bills, hard even for fellow planners?

Regardless of the skillfully applied pressures of war hysteria, the Kilgore bill did not become the law. Industry went steadily ahead and applied its seasoned capacity for organization and its technological know-how to every task of production—including that of producing the atomic bomb—with results which brought consternation and defeat to all the enemy nations. Those nations had enjoyed for years the benefits of the kind of regimentation of mind and spirit, and of physical resources, which would have resulted inevitably from a projection of our economy toward the objectives of the Kilgore bill, now again substantially renewed in these Science Foundation bills.

As cofounder of the Automotive Council for War Production in Detroit, as an officer and member of its board of directors, and as chairman of its military replacement parts governing board, throughout the war, it was my privilege to see industry rise admirably, to challenges for intercooperation, with sacrificial devotion to the highest concepts of patriotism. That cooperation produced abundant proof that industry's inventive and productive muscle, seasoned throughout generations of competitive enterprise, could give to the world a salutary demonstration of the superior power of our normally competitive economy, greatly in contrast with the performance of nations long regimented in their activities for production.

There is submitted herewith, as an exhibit, a printed transcript of my address entitled "Better Look Now—Over Your Shoulder!" delivered March 11, 1949, to the Dayton Patent Law Association, Dayton, Ohio, with extensions and revisions to April 1, 1949.

Another exhibit offered as a part of this testimony, and already supplied to each member of your subcommittee, is the book entitled "Ordeal by Planning," published by the Macmillan Co., and written by Dr. John Jewkes, noted British economist.

(The two afore-mentioned exhibits are on file with the committee.)

You are referred particularly to pages 20 to 28, inclusive, of the transcript mentioned—the Dayton address—for quotations from Dr. Jewkes' book and for documentation bearing upon late industrial calamities in Britain attributed to the injection of governmental influence and controls into the business of research as affecting industrial development for peace and for war.

Perhaps worthy of direct inclusion in this statement is the following excerpt beginning on page 20—with an editorial in the London Times

of August 11, 1846, more than 100 years ago—and concluding on page 22 of the transcript mentioned:

"The greatest tyranny has the smallest beginnings. From precedents overlooked, from remonstrances despised, from grievances treated with ridicule, from powerless men oppressed with impunity, and overbearing men tolerated with complacency, springs the tyrannical usage which generations of wise and good men may hereafter perceive and lament and resist in vain. At present, common minds no more see a crushing tyranny in a trivial unfairness or a ludicrous indignity, than the eye uniformed by reason can discern the oak in the acorn, or the utter desolation of winter in the first autumnal fall. Hence the necessity of denouncing with unwearied and even troublesome perseverance a single act of oppression. Let it alone and it stands on record. The country has allowed it and when it is at last provoked to a late indignation it finds itself gagged with the record of its own ill compulsion."

Days could be spent profitably in contemplation of Dr. Jewkes' revelations, out of the frightening experiences of Britain, of what is in store for us unless we at once dismiss our power planners and all their deluding devices. Time permits only brief references. One of particular interest to those who must decide whether to open to our planners new channels by which to tap our treasuries for the support of research controlled by Government, is found on page 162 of Dr. Jewkes' book, from which I quote as follows:

"The highest type of intellectual effort, such as pure research in the sciences, can only be carried out where the individual is virtually autonomous. Those who are to do the path-breaking work for society, those upon whose success progress so uniquely depends, must in their activities be allowed to go their own gait, to follow their own intuitions wherever they lead. Now it is logically impossible to permit these liberties in a planned economy. They outrage the general principles of orderly control; no sincere and authentic planner can be expected to sympathize with the idea that one group in the community does not fit in with the general scheme and is up to tricks which the State knows nothing about. Pure research must inevitably wither in the planned economy for a double reason. It cannot go on in that sort of environment. And, in any case, it will not go on, because those who are capable of it will be disgruntled by what appears to them the foolish policy of the state in failing to provide the only environment in which they can work."

Appended by asterisk to the above-quoted material is an ominous footnote which reads:

"One of the most striking illustrations of this is provided by the wholesale resignation of the experts on jet propulsion, who had given Great Britain a substantial lead in this field, when the Government took over this type of research."

The emphasis is supplied.

SIR ROY SAYS PLANNERS' RESULTS GHASTLY

What can happen in a planners' paradise, so long as transfusions of outside cash continue, is reported on page 94 of March 14, 1949, Time under heading "Last of the Tudor IV," opening with the sentence:

"In the first lap of the postwar international air race Britain had bet on the long-beaked 'Avro Tudor.'"

After reporting how British Overseas Airways tested their performance and refused to accept Tudors—how two out of four Tudors disappeared in salt water with a total of 51 aboard—it reports how Civil Aviation Minister Lord Pakenham "solemnly intoned":

"I have regretfully come to the conclusion that this type of aircraft should not continue to be used for carrying passengers."

The report closed with a quotation from the lips of Avro managing director Sir Roy Dobson, in this sentence:

"I would like to see the whole lot (of Tudors) swept out and burned so that we can forget this ghastly chapter and start again."

Research controls established by the planners of Britain we thus see breaking down, almost overnight, the British accumulation of technological skill and know-how developed in her private industries

over generations of participation in the competitive exercises of British industrial economy and of the world. In those exercises Britain had developed, for industrial research and production, tough muscle which carried her through to victory in a Second World War—against what had been in Germany for many years perhaps the most exhaustively regimented industrial economy of all history wherein scientists labored constantly in the shadows of police state coercion.

May we pause here, not only to consider broader lessons of history, but also to examine significant current pressures toward similar political domination of our industries?

H. R. 12 and its companion bills make no discernible effort to hold the proposed Science Foundation free from political dominance and resultant exposures to unfortunate inadvertences such as the selection, for control positions, of men at heart committed to ideologies repugnant to American traditions—men now perhaps having no choice but to follow the dictates of alien masters or be confronted with dire consequences of public disclosures of previous indiscretions.

Dr. Frank B. Jewett, speaking as the then president of the honored National Academy of Sciences, as shown on page 118 of the record of the hearings on H. R. 6007—identical with H. R. 12—said, with respect to the question of political dominances under Science Foundation bill H. R. 6007:

The elimination of these objections makes the present bill more purely a politically controlled affair and if passed would make the Foundation a firmly fixed bureaucracy which Congress will find hard to control. As a purely political body it will be subject to all the pressures of every sort of interested group. As such it runs counter to the strongly expressed views of all the scientists who objected to the dangers of political control and were in favor of the bill passed last year.

Parenthetically, Dr. Jewett, on page 119 of the record, in discussing the claim that Science Foundation legislation is needed to accelerate the development of new scientists and technical specialists, from his preeminence in the field of science, says:

At best such a Foundation may possibly produce a few more good scientists, doctors, and engineers, and a little more first-rate science than would otherwise be produced, but at a high price. One thing it certainly will produce is a torrent of second-rate scientists, doctors, and engineers.

What assurance is offered that the few “good scientists, doctors, and engineers” that might be produced, by the vast expenditures contemplated in this legislation, would be less reluctant to serve in the regimentation of Science Foundation bureaucracy than other good scientists, doctors, and engineers have been to serve under the Atomic Energy Commission?

And is it not true that the GI bill of rights, since its enactment in 1944, 5 years ago, already has produced such a surplus of scientists and engineers that many of them are walking the streets today looking for jobs that do not exist? It is understood that this condition recently has become so common as to deserve the notice of this committee, as one of the altered aspects, but recently apparent, which have suggested a complete reevaluation of the entire Science Foundation scheme even by its strongest proponents of but a few months ago?

Possibly the sponsors of this Science Foundation legislation, who have argued its urgency because of a presumed need for increasing the supply of scientists and engineers, may again demonstrate their ver-

satility by arguing now that the legislation is needed because of an oversupply of scientists and engineers.

Many dire prophecies were made to hasten enactment of the ill-fated Kilgore bill of 1943. The prophets were completely discredited by ensuing events. Now presumed urgencies advanced in support of the plea for enactment of H. R. 6007—now H. R. 12—already are fading. Even recent publicity, stirring memories of the “flying saucers” hoax, has excited little public interest and has raised few “goose pimples” in Congress.

Appalling examples of studied infiltrations into Government by subversive personnel, at positions within range of vital governmental functions affecting national security, have not been lacking. That the proposed Science Foundation would be immune from such attacks can scarcely be imagined. That the foundation has been planned as a destructive instrumentality to be controlled by subversionists and employed to disable our industries is not now totally unsupported by significant facts.

For example, it is doubted that any man on this subcommittee, or more than a very few men in all of Congress, would choose Dr. Harlow Shapley, director of the Harvard University Observatory, as director of the proposed foundation. Yet, as pointed out by witness Fritz G. Lanham in his statement delivered before your subcommittee on April 4, 1949, Dr. Shapley, identified as participating actively in the work of an amazing number of organizations branded by our Government as subversive, is identified in a letter from the Director of the Budget as having been consulted as to the phraseology of “previous drafts”—note the plural—of Science Foundation bills—even prior to 1948.

On page 103 of the record of testimony on H. R. 6007 there appears, in extension of remarks by Hon. Robert Nodar, Jr., of New York, a press report by Walter Trohan, as follows:

Washington, April 25, 1948.—Minutes of the Intersociety Committee for a National Science Foundation, a group of scientists promoting a bill to spend \$15,000,000 a year on research, disclose that the group intends to pick the personnel of the foundation when and if it is approved by Congress.

Prominent in lobbying for the legislation is Dr. Harlow Shapley, director of the Harvard University Observatory. He is a member of various organizations designated by Attorney General Clark as subversive. Shapley is vice chairman of the group which would make the selections.

Shapley has a long record of affiliation with groups which the House Un-American Activities Committee has labeled as communistic or Communist fronts. Recently he was disclosed as the master mind of the Committee of One Thousand, a group formed to press for abolition of the House committee.

In view of such identification of a member of subversive groups as influencing over such a long period the phrasing of science foundation bills, perhaps even more interesting in its implications is a statement in the public press to the effect that, in anticipation of the enactment of this science foundation legislation, a list of persons to be proposed to the President for appointment to all the controlling positions in the foundation has been prepared—for submission immediately upon the enactment of the proposed legislation—but has not been published.

It is not understood, therefore, whether the names of Dr. Shapley, W. A. Higinbotham—who has submitted a statement in favor of H. R. 12 in these hearings—Alger Hiss or Henry Wallace are included

in any slate presumably prepared or sponsored by Dr. Shapley perhaps with the advice and consent of his conferees at the recent scientific and cultural conference of the National Council of the Arts, Sciences, and Professions which is the subject of a sensational review prepared and released under date of April 19, 1949, by the Committee on Un-American Activities of the House of Representatives. You are respectfully referred to that review as of particular interest in establishing the character and possible origin of our succession of science mobilization-foundation bills and hoped-for liaisons between the dominating structure proposed to be set up by these bills and the core of communistic task forces operating at all levels in America today.

Among the list of panel moderators and chairmen participating in the recent subversive meeting with which the above-mentioned review deals at length, we find the name of Harlow Shapley. In the list of panel speakers we find W. A. Higinbotham, also above-mentioned. There has been encountered nowhere any report to the effect that either of these gentlemen opposed in any particular the hostile purposes of the meeting or attacked in any manner the subversive philosophies therein advanced.

On page 12 of the review of April 19 by the Committee on Un-American Activities, above-mentioned, under the heading of "Civil disobedience" these words occur:

A member of the Communist Party struck the main chord of the conference in his outright advocacy of civil disobedience. Chosen for this role was Richard Boyer, who spoke openly as a member of the Communist Party * * *. Those who have thoughtlessly lent their names to the so-called Scientific and Cultural Conference for World Peace, should weigh carefully the motive behind his remark that "the very heart of American thought was that no act or policy of the Government is binding on the individual unless it meets the requirements of his conscience," and that "it is the duty of Americans to defy an American Government intent on imperialist war."

On page 15 of the review we find, under the heading "Scientists," a statement by the Committee on Un-American Activities as follows:

It is by no means accidental that Richard Boyer's appeal for civil disobedience was directed to an audience which included the following atomic scientists: Harlow Shapley, of Harvard University; William A. Higinbotham, of the Brookhaven National Laboratory, Upton, Long Island; William Orr Roberts, High Altitude Observatory, Colorado; Philip Morrison, of Cornell University; Victor Weiskopf, of the Massachusetts Institute of Technology; Oswald Veblen and Albert Einstein, of Princeton. If the Communists could succeed, by playing upon the notorious political naiveté of physical scientists, in inciting scientists to a strike against their own Government, or sabotage, it would be a real achievement for the Soviet fatherland. They would like nothing better than a repetition in the United States of the cases of the Canadian atomic scientists, Raymond Boyer and Allan Nunn May, who divulged atomic secrets to the Soviet military intelligence. Such is the main purpose of this international movement, which is headed by Frederick Joliot-Curie, French Communist and atomic scientist, who has attacked the United States for keeping the atomic bomb secret, a tactic he called dangerous. Echoing the Soviet position, he has also demanded the United States halt its production of atomic bombs.

It may be helpful to note in H. R. 12, section 4 (a) under the heading "Powers and duties of the foundation" a subsection bearing upon the above-quoted comment, as follows:

The foundation is empowered * * * (5) to foster the interchange of scientific information among scientists in the United States and foreign countries.

For relentless tenacity in pursuing their objectives, and for enforced unanimity of purpose, the planners surely are outstanding.

Under date line of "Washington 6, D. C., May 17, 1948," addressed to Hon. Charles A. Wolverton, chairman, Committee on Interstate and Foreign Commerce, House Office Building, Washington, D. C., on page 116 of the printed record of the hearing before that committee on H. R. 6007—identical with H. R. 12—there appears a letter by W. A. Higinbotham.

I should like to pause here to read a brief report from one of our executives who has tried to find out something about the Federation of American Scientists, and I will read this report:

At the request of Mr. John W. Anderson, I made two calls on the office of the Federation of American Scientists, whose address is listed in the telephone directory as 1749 L Street NW., Washington, D. C.

When I first walked by this address I notice it contained a small confectionery and cigar store. I saw no sign or other indication that the above organization was located at this address. I stopped at a small haberdashery shop three or four doors away from 1749 L Street NW., and inquired as to the location of the Federation of American Scientists. I was informed that this organization had its offices at 1749 L Street, but that in order to get to them, I would have to go through the cigar store and up the stairs to the second floor. With this information I returned to 1749 L Street NW., and upon reaching the second floor, looked around for the name of the organization. All of the office doors—three or four—were open and in the first one on my left there were two people sitting, and I inquired if this was the office of the Federation of American Scientists. The lady in the office replied that it was. I explained to her that I was representing the National Patent Council, that we had published a small booklet entitled "Patents Make Jobs for Engineers" and had circulated a great many of these booklets to engineering schools all over the country, and would like to distribute this booklet, setting forth the benefits of our American patent system, to the scientists in the Federation of American Scientists, as well as the Federation of Atomic Scientists, whose address was also 1749 L Street NW., Washington, D. C. I was informed by the woman that the Federation of Atomic Scientists no longer existed, but that the Federation of American Scientists had absorbed or was taking it over.

The woman appeared interested in the prospect of having these booklets distributed, but when I inquired about the availability of a roster of scientists belonging to the Federation of American Scientists, she explained that such a list was not available. She proceeded to tell me that they were making up such a roster and that it might be available at some time in the future. She asked if I would send one of the booklets to her. I said I would and left the place.

I called on this organization again within the next 15 minutes to ascertain the correct address where the booklet may be mailed to, and to ascertain the name of the lady I had talked with. I learned that her name is Miss Dorothy A. Higinbotham, and that her brother is W. A. Higinbotham, vice president of the organization. I also learned that the sign at the bottom of the stairway read as follows: "Federation of American Scientists" and "National Committee on Atomic Information."

That is the end of the report.

The letter, to which I referred, from W. A. Higinbotham, quotes what purports to be a resolution of the Federation of American Scientists, of which Mr. Higinbotham is understood to be the executive secretary. Section 2 of that Higinbotham resolution, is a listing of the features recommended to be embodied in National Science Foundation legislation, presents:

2. Specific assignment to the foundation of responsibility for formulation of national science policies, with the right and duty to survey public and private research, and to make recommendations for its coordination.

Mr. Higinbotham and his associates in the Federation of American Scientists apparently want the National Science Foundation invested with full authority to invade the realms of private research and invention and "to make recommendations for its coordination." Dili-

gent inquiry to date has not disclosed the identity of constituent bodies forming Mr. Higinbotham's federation. However, there is listed at the same address, 1749 L Street NW., Washington, D. C., with the same telephone number, National 5818, a Federation of Atomic Scientists.

Your patience in considering our treatment of the testimony of Mr. Higinbotham is solicited because of the presumption that he speaks eloquently for a substantial segment of our scientific world—and reflects, as well, the hopeful concurrence of the international groups he mentions.

While, in the light of recent public disclosures, including those herein discussed, many parts of Mr. Higinbotham's letter begin to take on new significance, perhaps worthy of careful review by your committee, there is another section of the recommendations of the resolution worthy of quotation here. It is section 8, and it reads as follows:

8. Provision that all research supported by the foundation be nonsecret.

Thus the foundation, empowered to invade all research, governmental, academic, and commercial, would be mandated to disclose it to the world, of course including Mr. Higinbotham's conferees from Russia. At another point in his letter, Mr. Higinbotham says:

I feel that the principal weakness of the present bill is that the scope of the Science Foundation is severely limited. In the first place, it is restricted to the support of basic research. This side of research is certainly most in need of support. But it will be exceedingly difficult to tell where to draw the line.

And we should not omit one further paragraph which reads:

There has been some concern that aid to foreign scientific institutions, as provided in 11 (c), might be used as a diplomatic tool. I'm sure this was not the intention. The generous provisions for support of international research and for sending scientists to international meetings (sec. 13 (a) (b)) meet with our hearty approval and will secure good will and do much to stimulate world science.

In his statement of March 25, 1949, to this committee, discussing H. R. 12 and other subject bills, in behalf of his Federation of American Scientists, Mr. Higinbotham lays down, with painful frankness, his challenge to our right to retain in secret, and employ for world peace, scientific discoveries and developments for which we alone pay. An example, of course, is the atomic bomb. On page 4 of his statement last mentioned, in its section 6, he complains that:

In S. 247, section 15, the support (of "international cooperation in furthering scientific activity") is made contingent upon "the foreign-policy objectives of the United States as determined by the Secretary of State after consultation with the Director." H. R. 12, section 16, contains an essentially similar provision although with somewhat improved wording. Real dangers exist in this frank coupling of scientific support and foreign policy. To scientists, it will represent a breach of a long-standing tradition: That the search for objective knowledge is not to be cast along national lines or limited by national policy. To critics of the United States, it will afford an opening for the charge that our assistance is no indication of genuine concern for extension of knowledge or for the welfare of other countries, but only an attempt to further our own interests.

Then, in the same paragraph, Mr. Higinbotham says:

We believe that the National Science Foundation, in giving support to international science, should do so through established international agencies—e. g., UNESCO and the international scientific unions—with no strings of special national interest attached.

Could not Mr. Higinbotham just as logically insist that it would be humiliating to our scientists for our State Department to decline to make available to our foreign enemies information as to the number of ships, airplanes, and guns we possess, the number of our soldiers, and the disposition of all our military strength for defense? Have we forgotten our overwhelming proof of the fact that the secret knowledge of a single scientific achievement not only can end a war abruptly but, by its defensive threat to a ruthlessly advancing foreign imperialism, perhaps delay for years a third world war? Would we not be better off to give our enemy, if we must, information as to the disposition of our military forces, without informing them completely as to the potency of their weapons?

And what standing would any man have before our legislative bodies, or the court of public opinion, were he to insist that we should sanctify, by legislation, the disclosure of military information vital to our national security?

Could there be, on the part of any group, a more conclusive demonstration of inability to understand fully the opportunities for service presented by American citizenship? With more than half of the population of the world now defenselessly exposed to the brutalitarian domination of an openly hostile and venomously insulting nation which, from behind its iron curtain, takes everything and gives nothing, what must we understand to be its possible promises of reward for advocates, among us, of a policy of giving everything and taking nothing?

Can it be that its advocates in America are insensitive to the significance of the already-matured fate of native advocates who assisted it in the capture, by similar methods, of nations now its hopeless satellites?

With all such advocates in this country, and all their disciples, pressing relentlessly for this Science Foundation legislation, might we not reasonably examine all potentials of such legislation for advancing, in America, the identical type of stifling techniques employed in the hopeless enslavement of once-proud nations of once-free men?

Why should the egos of productive Americans continue to cringe before the indefensible presumptions of superior wisdom of native academic messiahs chosen by cunning alien enemies to lead us innocently to our destruction?

Since the date of Mr. Higinbotham's letter we have had from him perhaps conclusive evidence of his sincerity in desiring to remove limitations of the proposed National Science Foundation legislation, and in commending its provisions for sending scientists to international meetings.

But apparently Mr. Higinbotham, Dr. Shapley, and many others of affiliations questioned by our Government have become impatient of the delay of 6 years by Congress in placing in their hands the potent instrumentality now identifying itself within the four corners of H. R. 12 and similar bills. Such impatience would seem evidenced by their enthusiasm for the recent international meeting of "scientists" held in New York City on March 26 and 27, 1949, under the auspices of the subversive National Council of the Arts, Sciences, and Professions. According to the grant of power in section 4 (a) (2) of H. R. 12, the Foundation could extend its activities to include all the so-called sciences, and to concern itself with "the impact of

research upon industrial development and upon the general welfare", with powers specifically granted for establishing special commissions in the medical field and (sec. 4 (a) (7)) "such other special commissions as the Foundation may from time to time deem necessary for the purposes of this Act."

Subsection (b) of section 7 of H. R. 12, following an enumeration in subsection (a) of four specific divisions of the foundation, states?

There shall also be within the Foundation such other divisions as the Foundation may, from time to time, deem necessary.

It seems obvious that sponsors of the Science Foundation bills have intended never to be required to return to Congress for increases in the scope of powers of the Foundation.

With this bill enacted, particularly if in the form recently passed by the Senate, subversive infiltrates and indoctrinates—perhaps as yet unidentified as hopelessly captive to the authors of all this iniquity—would have shortened, to a single step, whatever distance remains between them and absolute power to destroy in America not only all incentive to create and produce but also all competitive opportunity for creation and production.

May I repeat here, please, a brief paragraph from my statement in debate with Senator Kilgore in 1943:

There is here neither space nor occasion for a detailed analysis of the text of the (Kilgore) bill. Hours would be required to accent adequately the adroitly related subtleties, deep implications, and revolutionary implementations of the document. It reflects profound and prolonged deliberations and a proficiency in deceptive draftsmanship which friends of Senator Kilgore disclaim as among his accomplishments.

The sponsors of this Science Foundation scheme have since had 6 more years in which to practice their admittedly advanced semantics, not only in their draftsmanship of the bill itself but also in their testimony and propaganda supporting it.

Have any of you gentlemen of the committee examined the roster of men who have testified in support of this bill to determine how many of them could reasonably hope to become financial beneficiaries of the operations of the proposed Foundation? If not, it is recommended respectfully that you do so. Your interest in such an examination we hope may be stimulated by words of the noted scientist, Dr. Louis Koenig, of Armour Research Foundation, as they appeared in the March 1949 issue of Chemical Bulletin—reproduced, beginning on page 27 of my herewith-exhibited Dayton address of March 11, 1949, above mentioned. Those words of Dr. Koenig read as follows:

Throughout the entire history of the National Science Foundation legislation, although there has been much bickering over the precise construction of the Foundation, there has been a most remarkable unanimity of opinion concerning the desirability of the Foundation itself. As one example of this unanimity, there may be cited the testimony of hordes of witnesses at the various congressional hearings. In all of these hearings on the numerous bills, and in all the testimony both oral and written, there can be found only one instance in which a witness expressed himself as opposed to the idea of a National Science Foundation.

To a Nation such as ours, which decides so many of its elections by 54-46 and even 51-49 tallies, and which ridicules the Hitler and Stalin 99-1 and 98-2 victories, such a unanimity of opinion is grounds for suspicion or at least for inquiry. Testimony in the Science Foundation hearings was taken from more than 200 persons, of which only the one referred to was opposed. Our desires

would seem to outdo both Stalin and Hitler. They are better than 99.4 percent pure.

Dr. Koenig, later in his discussion of H. R. 12, states:

The unanimity is the more surprising in that all of the bills on the subject, including those now before the Congress, contain the germs of two authorities which may eventually strangle both the chemist and his employer. These authorities are (a) the authority to indiscriminately grant scholarships in science and engineering (b) the authority to engage in entrepreneurial research.

By comparing the dearth of men of industry heretofore troubling to oppose such Science Foundation legislation, or even to understand it, with the host of professional men arising to support it, the soundness of the American system of propulsion by direct financial incentive becomes again apparent.

On page 112 of the record of the hearings on H. R. 6007 there appears a statement by Karl B. Lutz in which we find the following:

The Science Foundation is supposed to limit its work to basic or pure science.

By the power of the purse the Foundation will inevitably try to direct the course of research. Not long ago Chicago University refused to accept Federal funds for a certain project. In making the refusal, Professor Thorfin R. Hognness said, "If we take it, the American taxpayer foots the bill while the bureaucrat in Washington calls the tune."

That scientific research cannot be controlled or directed is conclusively shown by an English professor, John R. Baker, in his book *Science and the Planned State*, published by the Macmillan Co., 1945. He points out that the scientist must be free to follow his own ideas, wherever they lead. As an example, he points out that penicillin was a chance byproduct of other research. "It would have been impossible to plan a research to find such a substance because the existence of such a substance was not envisaged by anybody."

Mr. Lutz, above quoted, is an employee of the Bohn Aluminum & Brass Corp. of Detroit, Mich., and as such must deal constantly with the practicalities of American industrial enterprise. It may be pointed out that George E. Folk, patent adviser for the National Association of Manufacturers, is listed as one sponsoring H. R. 6007 in behalf of NAM. However, it perhaps is noteworthy that among the long list of other supporters of the bill can be found very few corporations qualified for membership in NAM. Nearly all of the others listed as sponsors represent universities, colleges, and groups of scientists and professional men.

All who testified from industry as sponsors of H. R. 6007, including Mr. Folk, qualified their sponsorship with significant requests for restrictive changes in its provisions. Most of the others, principally of the academic field, listed as sponsors, requested a broadening of the powers of the Foundation.

Included in the list of sponsors of H. R. 6007 there are found almost no representatives of smaller industry in America. By smaller industry is meant that group of usually inarticulate industrialists ranging from the very small up to, but not including, corporations usually classified as Big Business. Members of National Patent Council, whom I have the honor of representing here today, are all included in the category of smaller manufacturers.

Smaller manufacturers—and there are many thousands of them—provide most of the inventive and creative impetus of American industry. Most of the functional components of major products of largest corporations are created, engineered, and produced by smaller manufacturers. For example, 65 to 75 percent of the functional com-

ponents of automotive vehicles manufactured in the United States today come from such smaller manufacturers who in fact deserve, and in informed circles are accorded, the lion's share of the credit for the over-all advancement of engineering in the automotive field. Military authorities have conceded that most of the inventive contributions that made possible the winning of World War II came from the smaller people of industry.

All of our so-called big industries are supported by a vast understructure of thousands of smaller manufacturers and producers extending, step by step, to all our basic industries. Each of these smaller units of production is stimulated to hard-to-win advancements in its techniques, and in improvements in its products, by a hope of financial reward for service rendered. In this vital area from which most of the productive strength of our Nation comes, the producer asks only for a fair opportunity to outinvent and outperform his competition. He does not carry a mendicant's tin cup, or a bottomless barrel. He pays heavy taxes. He asks no hand-outs from Government. As a modest example, my own research, development, and manufacturing corporation, although supplying critical military products to Government, without once failing to meet a creative, an engineering, or a production requiring of Government, has never accepted from Government any money for research or developmental purposes.

But the smaller manufacturer does ask that Government refrain from subjecting his operations to interferences by tax-supported planners volunteering from the field of professedly prodigious intellects comfortably preoccupied with observations of the labors of others, including the Almighty, and with stimulating speculation as to how everything might be better done. Such intellects, you may have noted, court little criticism from those who have learned, as must be learned, the hard way, what it takes to get things done.

When the planner moves in, with grants of power by Government to interfere with the normal exercise of the essential functions of competitive industry, two unalterably opposed concepts collide. Neither can team successfully with the other. Resultant industrial stagnation must eventually dry up about everything of value in our economy—even the source of the tax money which supports the planners.

I know how men of smaller industry must appreciate the solicitous attitude on the part of the Committee on Labor and Public Welfare reflected in its report on Senate bill 247, in the following paragraph:

Spokesmen for industry have revealed that more than 150,000 industrial establishments have no basic research facilities whatever, and that those establishments are pursuing goals which are peculiar to their own interest, without proper coordination with the general basic research problems of the Nation. [The emphasis is supplied.]

The bill mentions the word "correlation" but does not contain the word "coordination." The testimony indicates an understanding that these two words may be used interchangeably. Any difference in the meaning of the two words is much narrower than differences frequently bridged in justifying administrative policies of governmental agencies.

Within those 150,000 industrial establishments perhaps are to be found most of the significant achievements in applied research. And

out of industry as a whole, if facilities of universities and other research institutions employed from time to time by industry on special assignments are included, no doubt has come much advancement in basic research unless such research is presumed to include only the most profound explorations in the realm of the sciences. In testimony relating to Science Foundation legislation it has been stated, however, that it is difficult to draw the line between basic and applied research.

As to industrial establishments pursuing goals which are peculiar to their own interest, is that not the type of pursuit through which our advancements come? And is it possible, or desirable, to attempt, through a single governmental agency, "correlation"—which implies control—"with the general basic research problems of the Nation"?

Would it not be equally practicable to undertake to correlate all industrial functions and activities, which would mean the complete elimination of competitive factors and the complete domination, or absorption, of industry by government? Would not the proposed correlation of industrial research lead inevitably to such absorption by government, not only of research but of industry itself? And, again most seriously, may we not ask whether that is, in fact, the submerged purpose of these bills?

In a recent conversation with a representative of one of our largest industries, on the subject of this Science Foundation legislation, it was stated by that representative to be his belief that within about 6 months after the enactment of such Science Foundation legislation there would arise within industry a tremendous uproar of protest and a futile hope for relief from the consequences of such departure from sound American traditions. Perhaps because of limitations imposed by responsibilities to interests exposed to governmental mechanizations, the gentleman expressed total inability to raise his voice in these hearings. Most men of industry have been found to have heard only vaguely about the National Science Foundation bills and to have been spared any considerable understanding of their serious import.

As an example of the obviously studied unfrankness of H. R. 12 may we examine whether the bill in fact provides for authority to confiscate patents, research facilities, and plants? Under the heading "Authority of Foundation" section 11, we find:

The Foundation is empowered to do all things necessary to carry out the provisions of this act, and without being limited thereby, the Foundation is specifically authorized * * * (e) to acquire by purchase, lease, loan or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, scientific research.

Of course, including patents.

May we at this point submit for the consideration of the committee an opinion rendered to National Patent Council, by Richard S. Melvin, legal adviser to the Council, which opinion reads in part as follows:

It is necessary, before any agency of the United States Government exercises the right of eminent domain and condemnation proceedings, that it have authority in some act of Congress, giving it that power. This power does not need to be set out definitely and specifically, but, as has been held, legislation authorizing the acquisition by the Government of lands for public use will, where such construction is possible, be construed as authorizing the Government to acquire such lands by the exercise of the power of eminent domain. (*Albert Hansen Lumber Company v. U. S.* (261 U. S. 581, 67 L. ed. 809, 43 S. Ct. 444.) Since H. R. 12 at section 11 (e) grants the National Science Foundation the right to

acquire property, the doctrine of the Hansen case would be applicable even though the language is "acquire by purchase, lease, loan, or gift," and the National Science Foundation would have the power of eminent domain.

This supports the contention that, under the provisions of H. R. 12, if enacted, the director of the Foundation could arbitrarily acquire, by condemnation, real estate, buildings, facilities, patents, patent rights, drawings, and other property relating to research, with the question of compensation entirely beyond control of the owner of the property condemned.

It is not understood that many of the proponents of the bill have given it, publicly, any such interpretation. However, it may be noted on page 62 of the record of the hearings on H. R. 6007, dated June 1, 1948, that George E. Folk, an eminent lawyer, testified in part as follows as to that bill, identical in text to H. R. 12:

Therefore the Foundation would be authorized to acquire, in any manner whatsoever, patents necessary for scientific research or development or resulting from scientific research or development. Surely no such unlimited power of condemnation of patents was intended to be placed in the Foundation.

Perhaps as a covering afterthought, there is appended to section 12 (a) under the title "Patent Rights" the following:

Provided, however, That nothing in this act shall be construed to authorize the Foundation, by any contractual or other arrangement, to alter or modify any provision of law affecting the issuance or use of patents.

This provision has been perhaps as fully effective as could have been intended. Some men high in the profession of patent law have referred to this provision, erroneously, as giving them every desirable assurance that the patent system, as it functions in our economy, would not be disturbed by anything contained in H. R. 12. It seems there could be no more impressive proof of the high responsibility carried by the honorable members of this important committee for study of the submerged potentials of this bill for seriously disruptive economic repercussions.

With another and superpowered governmental agency engaged in the pooling of patent rights of import to industry, added to the long roster of such already established agencies, what must industry think, and feel, as to its chance to retain any autonomy related to research and invention? Astounding practices in the manipulation of such agencies' cartels of patents are reported, with conclusive documentation, under the heading "Sauce for the gander—what for the goose?" beginning on page 13 of the exhibited transcript of my address of March 11 to Dayton Patent Law Association.

And I would like respectfully to suggest to the members of the committee that, if nothing else, they read that very significant documentation which shows the treatment, definitely, in their own words, on their own letterheads, that other agencies of Government, including the military, are giving to the pooling of patents and the exercise of the powers of those pools in their dealings with industry. I think you will find it a rather shocking revelation.

That is beginning on page 13 of the exhibited transcript of my address of March 11 to the Dayton Patent Law Association, if you would care to refer to it.

And might inquiry be made as to whether it is regarded as within the authority and duty of your committee to examine the extent to

which H. R. 12 and related bills would subvert the intent of the Constitution of the United States? Attention of your committee is directed to sections (5) and (6) of National Patent Council's communication to the Department of Commerce, Office of Technical Services, under date of October 9, 1947, beginning on page 17 of the transcript of the exhibited Dayton address. Those sections read as follows:

(5) A patent grants only a negative right. That right is to exclude others, for the limited period of 17 years, from manufacture, sale, and/or use of the invention—at the will of the patent owner, and to any extent he may desire.

“(6) When our Government, which is presumed to be the entire citizenry, acquires a patent, that patent by every constitutional intent automatically expires, because there is none left to exclude. To hold differently is to hold that our Government has become a competitive device imposed upon the citizen and deriving its power arbitrarily from a source apart from any formalized expression of the will of its people. The Government, which has granted the patent, in presuming to own it, places itself in the untenable position of having vested in itself, without authority, a right which clearly, by constitutional intent, can be possessed only by the citizen.

While the attention of your committee is directed particularly to the above-quoted sections, it is suggested that you read that portion of the transcript beginning on its page 16 under the heading “Power planners scorn Constitution.”

The above-quoted challenge of the constitutionality of ownership of United States patents by the United States Government has not been questioned by any authority. It has been supported unequivocally by eminent lawyers including, according to advice of the Office of Technical Services, lawyers of Government to whom the question was referred.

There perhaps has been no more flagrant flaunting of the Constitution by agencies of Government itself than the persistence of such agencies in acquiring, pooling, and manipulating patents and patent rights. That Government which decries cross-licensing, agreements to assign improvement patents, exchanges of know-how under patent licenses and selective and restrictive licenses, proceeds, as above documented, to do all these things which it would forbid the citizens to do. The distinction is that the citizen in doing them is well within constitutional intent and the framework of our laws. Government, in doing these things, and in its every act of pretended ownership of a patent, operates in scornful contravention of the clear intent of the Constitution.

Could not this committee as such decline to report out H. R. 12, or any similar bill with such provisions relating to patents, on the ground of clear unconstitutionality—and then could not the members of the committee cause to be drafted, and introduced under their sponsorship, a bill having the effect of restoring to the public its constitutional right to enjoy, fully and unconditionally, all patent rights once acquired by Government?

By what concept of consistency does H. R. 12 provide that no provision thereof shall disturb our patent laws and at the same time provide for Government ownership of patents in contravention of the clear intent of our Constitution?

During the past 15 years we have seen our patent system, and the incentive provided thereby seriously weakened by extraneous applications of subversive doctrines, without any substantial changes in the patent laws themselves. The ideologies that induced such sabotage of

our patent system are now rather well understood, as to their objectives and as to their source.

In this Science Foundation bill, H. R. 12, and related bills under consideration by this committee, there would be exerted upon our patent system a subversive extraneous influence perhaps more sinister than any as yet imposed upon it by agencies of Government. While other agencies of Government are attempting to exercise, presumptuously, similar powers with relation to the absorption of patents by them, it is obvious that the proposed foundation, with its over-all penetrations of industry and with its tenacles formed through unlimited numbers of scholarships presumably feeding patent pools of Government, would establish much more comprehensive, and steadily intensifying, pressures toward diminishing inventive and productive activities throughout private industry.

In my statement filed with the Senate Patents Committee under date of October 23, 1942, here offered as an exhibit, there appears the following paragraphs:

(This exhibit is on file with the committee.)

In times of confusion talented talkers have seemed able always to find exciting words and enticing theories with which to disable the patient builders of a nation—and perhaps innocently to destroy that nation itself—more spectacularly perhaps than those talkers could find for themselves the tedious ways in which to help their neighbors build.

If we permit ourselves to be talked into disabling our patent system and thus dishearten the most vital volunteer force ever to serve America—that inventive force without which America could never have grown strong—I think we may some day ask the Japanese to yield to us for all time their standing as the world's leading exponents of *hara-kiri*.

Should we not instead religiously maintain adequate incentives in our patent system and devote our thought and energies to improving and supporting that system to make it even more productive of inspiration for inventors and of resultant benefits to all our people?

* * * * *

Then let's keep intact also the inducements which for so long have inspired men of management who, under our free-enterprise system, have performed so well in directing men, money, and machines toward serving our public with the fruits of invention.

Make those men manage fairly, but keep them inspired and free to carry us ahead in world competition, in peace or in war.

If we must have a National Science Foundation, which is doubted seriously, why not limit its authority and its operations, to the correlation of research activities of other governmental agencies? Why not first test its ability to correlate research activities of the Army, the Navy, and the Air Forces, not to mention the Marines, remembering that correlation, to be effective, requires absolute control. Without such control attempts at correlation must serve only to create confusion.

It would be interesting to observe the reactions of the hard-bitten "brass" of our respective Military Establishments to attempt to fasten upon them such controls, operated perhaps by astronomers, psychologists, and other academic specialists.

It perhaps should be noted that the Military Establishments conducting basic research include the Office of Naval Research, said by the Steelman report to the President, dated September 27, 1947, page 56, to be "supporting about 600 basic research projects in more than 150 colleges, universities, and other nonprofit institutions," at a total cost approximating \$21,713,678, covering the fiscal year 1947.

And might not such a limited Foundation, after successfully correlating the military, find adequate tasks for all the competent talent it could accumulate in correlating, in addition, the many other governmental agencies engaged in basic research?

On page 36 of the record of the hearing on H. R. 6007 there appears the following dialog between Congressman Hugh D. Scott, Jr., and Dr. Lawrence R. Hafstad, executive secretary of the Research and Development Board:

MR. SCOTT. What does the bill do to eliminate or, rather, to integrate some of the numerous research facilities which the Government already has in other departments? Does not this just merely add one more research agency on top of all of the others?

DR. HAFSTAD. That is correct.

MR. SCOTT. Just as with the armed forces unification bill, instead of your having three services you add another one to them and you get quadruplication. That is what you are headed for.

While some of the proponents of Science Foundation legislation admit that there is need for such coordination in governmental research, it is interesting to note the testimony of the Honorable Charles Sawyer, Secretary of Commerce, in the record of the hearing on H. R. 6007. On page 71 of the record occurs the following dialog:

MR. SCOTT. MR. Secretary, how does this bill accomplish the purpose that you and Congressman O'Hara have been discussing, the coordination of research? I do not see anything in the bill which actually coordinates research. It seems to me, as one witness said this morning, it adds another bureau.

SECRETARY SAWYER. Well, are you asking me whether or not it adds another bureau? The answer to that, of course, is "Yes."

MR. SCOTT. I know the answer to that, but after we add the bureau what good does the bureau do or how does it coordinate research? I suspect, if you are in my position, you do not know how many research agencies there are now.

SECRETARY SAWYER. There are, I suppose, 20 or 30, at least. I have a list right here in this report of the President's committee, that was made some time ago, which I have glanced at hurriedly.

Your question is: How does this bill accomplish coordination?

After a somewhat rambling discussion of the question raised by Congressman Scott, Secretary Sawyer says:

But the very point that you raise I think perhaps could be answered, or your suggestion could be accomplished, by amendments in this bill in connection with its administration.

It seems that Secretary Sawyer thus reached the conclusion that the jurisdiction of the Foundation should be limited to coordination of research activities of Government agencies engaged in such research. That coordination, of course, would extend through to such non-profit organizations as the 150 colleges, universities, and other non-profit institutions above referred to.

It is regretted that time available does not permit exhaustive discussion of the above and other significant phases of the legislation in question. Much could be said, for example, about the dangers of lack of restrictions on, or accountability for, the use of money, and lack of limitations as to the number and character of scholarships to be established. However, the import of the above-discussed specific features of the bills, plus that of the broader considerations involved, it is believed should persuade the committee to examine most carefully the possibilities of the bill for irreparable disturbance of industrial equilibrium in America—before even attempting to effect adequate amendments to the legislation—assuming that any such legislation, however amended, is indicated at this time.

And should we not make certain that we have proved our ability to identify and clear all subversives out of other agencies of government before we set up this one, so skillfully tailored to subversive purposes?

It may be argued that to defend established agencies of our Government from subversive infiltrations is a common and inescapable problem which should be expected to extend likewise to new agencies, and that proposals for new agencies should not be rejected for such reason.

Such argument, however, cannot be urged logically in support of the proposed Science Foundation legislation. That legislation is repugnant to our American political and economic traditions and, even if administered always in good American conscience and in line with its express provisions, would inevitably dry up the creative fountain-heads of American industry by stifling individual incentive to invent and produce. Administered incompetently or subversively, such Science Foundation legislation it seems would spread rapidly through our industries that feeling of futility which promotes resentful surrender to the kind of destructive chaos our alien enemies have planned for us and our children.

In behalf of manufacturers and others who are members of National Patent Council, including my own company, and in behalf of many thousands of smaller manufacturers who have had no other representation at these hearings, our respectful prayer is that this committee decline to report any of the Science Foundation legislation here under consideration, either in its present form or in any form which permits the imposition upon American industry of any of the controls contemplated in the present bills.

We thank you for your patient attention today and for your generous consideration in granting these hearings, particularly this extension thereof.

Mr. PRIEST. Are there any questions?

Mr. Anderson, we appreciate your appearance before the committee. We grant you and every American citizen every right to his views and to a full statement of those views.

I want to state, as chairman of this subcommittee, that if this legislation were even one-tenth as bad as in your opinion it is, I think the subcommittee would not be in favor of reporting it.

We have studied this matter quite a long time.

In your statement, at least the first 18 pages or more of it, most of the material was based on your belief that this measure was alien-inspired, that it was the work of master planners, that it was obscure in its origin.

May I state, as chairman of this subcommittee, that this subcommittee and the full committee does not intend to write this bill for Mr. Higginbotham or for Mr. Anybody Else, but for the American public and in the interest of the American public, as we see it.

Frankly, my personal opinion, granting you every right to your viewpoint on it, is that any fear that it is alien-inspired, or that it is the work of master planners, or that it is in any way slanted toward the development of any subversive tendencies in the American Government, is purely without any foundation.

I was in on the very beginning of this legislation, a good many years ago, in one of the first conferences that was held to discuss it, with Dr.

Vannevar Bush and others who have been tremendously interested in the development of such a program.

We can understand, of course, your fears, if you believe that the legislation is intended to do, or that it will have the effect of doing, some of the things that you have pointed out to the committee this morning. However, with the exception of provisions with reference to patents and section 11 (e), I believe, on the purchase of property, you have not mentioned any provisions of the bill that in your opinion might seem dangerous; with the exception, I will add, of a provision on the interchange of scientific information.

I simply want to point out, without going into great detail, that this committee has not had at any time the intention of drafting legislation that would curtail initiative anywhere in the country. On the contrary, the whole philosophy of it is to encourage and develop scientific research with the maximum of independence.

This is not a Government agency. You asked a question at one point in your statement indicating your view, or you made the statement that the Government will be taking over scientific research. This is a civilian agency. It is appointed from among civilians of the country.

We have labored diligently to arrive at a solution that would have the very minimum of political or Government control in the bill. We have had a number of drafts. We have discussed it in the subcommittee, and we have discussed it in the full committee, in an effort to arrive at that sort of administration of the program. We have no intention whatsoever of bringing about any of these dire results that you have predicted if the legislation is passed.

On the question of condemnation of patents, certainly the committee has no intention of doing that. If it became necessary to revise that language to be sure that that was not intended, the subcommittee in its executive sessions would be very happy, I am sure, to clarify that language. We do not believe that the language as it is in the bill would in any sense provide for condemnation of patents.

On page 29 of your statement you made reference to the legal opinion that you had in attempting to show that H. R. 12 would authorize the condemnation of patents. In checking the statute of August 1, 1888, a copy of which I have here, and Supreme Court opinions dealing with the condemnation of property, I find, and I think any legal authority will find, that that authority, in any branch of the Federal Government that has authority under the law to condemn property, extends only to condemnation of land for public use, the erection of a public building, the building of a canal, or some other public use of land; and there is no statute that actually authorizes the condemnation of such property as patents.

Mr. O'HARA. If the gentleman will yield at that point:

I think during the war there was a condemnation statute as to personal property, but I do not believe that it affected patents.

Mr. PRIEST. No.

Mr. ANDERSON. Not specifically.

Mr. O'HARA. Not specifically. I may be wrong on that, but that is my recollection.

Mr. PRIEST. Thank you, Mr. O'Hara. I am sure you are right about that.

Just one or two other questions:

How many members are there in the National Patent Council?

Mr. ANDERSON. About 1,500.

Mr. PRIEST. About 1,500?

Mr. ANDERSON. Yes.

Mr. PRIEST. The headquarters are at Gary, Ind.?

Mr. ANDERSON. At Gary, Ind.

Mr. PRIEST. Just one other question for the record at this point: What is the corporate relationship and the officer relationship between the National Patent Council and the organization known as Productive Inventions, Inc.?

Mr. ANDERSON. Productive Inventions, Inc.? None whatsoever.

Mr. PRIEST. There is no relationship in the corporate set-up of the two?

Mr. ANDERSON. No. Productive Inventions, Inc., is a patent-holding and research corporation which I founded in 1932, and it has been very successful and has made some important contributions to industry. It is operated independently of any other corporation or any other group.

Mr. PRIEST. Could you file with the committee, not today, but by supplying it through the mail for the committee's files, a list of the membership of the National Patent Council?

Mr. ANDERSON. I shall be very happy to. And, in that connection, I presume the committee will exhibit the same interest in getting a list of the members of the organizations represented by some of the other witnesses who testified in favor of the bill. It is our hope, at least, that you will.

Mr. PRIEST. We shall. We have done so in some instances, and shall be very happy, before we close the books, to obtain others.

Are there any other questions?

Mr. ANDERSON. Might I, for the purposes of the record, disclaim on the part of myself or anybody associated with me the slightest intention to impugn either the motives, the patriotism, or the intelligence of any member of this committee. We however have felt, in looking back over our own individual experiences upon instances when we have been wrong, perhaps at times when we were most confident that we were right, that there is perhaps just a remote possibility that the committee in some of its positions taken on this thing may be wrong. And our appreciation of the disposition of the committee to examine carefully all the potentials of this legislation is enhanced by what we believe to be the tremendous dangers of placing certain legislation in the hands of people who, it has been stated here, are not of Government but by the very provisions of the bill can be selected only by Government.

Mr. PRIEST. Thank you, Mr. Anderson.

Of course, you understand that every member of the Foundation has to be confirmed by the United States Senate, and that the Foundation can never spend, or allocate for scholarship or research project anywhere, one penny until the Congress of the United States appropriates it, after careful hearings before two appropriation committees and action by both the House and the Senate. Those are some of the safeguards, if such should be needed, in which we have great faith.

I have, and I am sure you have, an abiding faith in the judgment of the Congress of the United States ultimately to find a right answer to any problem confronting the American people.

Mr. ANDERSON. When I lose that faith, Mr. Chairman, I shall apply for a passport.

Mr. PRIEST. Thank you, sir.

Dr. HILL. Might I have a word?

Mr. PRIEST. Will you state your name?

**STATEMENT OF MYRON FRANCIS HILL, PRESIDENT, GEROTOR
CORP., WESTPORT, CONN.**

Mr. HILL. I am Myron Francis Hill. I was formerly an examiner of patents in the United States Patent Office. Then I became an attorney. I have been an inventor and have made some inventions, which all of you gentlemen are constantly using every day, most of them.

While I have great sympathy with the presentation of the National Patent Council, a very able presentation which I heartily endorse, there are some factors that have not been touched upon. One is that you cannot buy an invention by simply appropriating money and selecting somebody to do it, selecting somebody to make the invention. That is one of the impossibilities. That seems to be a fundamental idea of this legislation that is proposed.

It has to be administered by somebody, and that somebody must know what that invention must be, in order to have it administered intelligently. How can he administer it if he doesn't know? And if he does know, what is the use of it?—because he would have the invention.

It is a misconception on the part of the people who were not familiar with inventions to think that you can, by appropriating money and selecting organizations, develop these inventions.

There are lots of things that can be done that way. That is, you can take an invention and develop it and apply it to different industries. That is quite possible, because there the person that had control of it might learn how to handle it, how to have it developed. But the great inventions of the world and of our country have not come from any such source as that.

An inventor has a dream and it grows upon him and then he has to work it out. I know, because the automatic telephone exchange, which has made the telephone available to such hosts of people, was something that I had to work out by myself. The idea comes when you are dreaming, at night, and you work things over in your mind, and then you have to try it and experiment with it, and see if this can be done or that can be done.

Mr. PRIEST. May I interrupt for a second? I wonder if you would like to prepare and file a statement for the record.

Mr. HILL. I would be very glad to do that.

Mr. PRIEST. We would be happy to have you do that. We had two other witnesses scheduled for this morning, who have come in, and our time is somewhat limited. If you would prepare a statement and file it for the record, we would be very happy to have just a continuation of the statement you are now making.

At the same time, may I state that it is not the purpose of this legislation to go out after inventions; but to encourage the basic laboratory research from which inventions come.

Mr. HILL. But how can you determine what that research is to consist of if you don't have an idea of what the invention is going to be? It seems to be an impossibility that you are trying to create.

Mr. PRIEST. When the scientists started working on nuclear fission, they were not thinking of the atomic bomb, or any special adaptations of energy. The research was on nuclear fission in the laboratory. From that, very many inventions come. That is the purpose of this bill: to encourage that basic research.

Mr. SADOWSKI. Mr. Chairman, I suggest we go ahead with the witnesses previously scheduled for this morning. This is not fair to them.

Mr. PRIEST. If you will send us your statement, we will be very happy to receive it for the record.

Mr. HILL. Thank you.

(No statement was supplied by Mr. Hill.)

Mr. PRIEST. Dr. Potter of Purdue University.

STATEMENT OF A. A. POTTER, DEAN OF ENGINEERING, PURDUE UNIVERSITY, LAFAYETTE, IND.

Dr. POTTER. Mr. Chairman, I am A. A. Potter, chairman of the committee on national science legislation of the Engineers' Council for Professional Development. The Engineers' Council for Professional Development is a functional body representing the major engineering societies.

I also happen to be a member of the committee on science legislation of the Engineers' Joint Council, which is also made up of the major engineering societies.

I was requested, Mr. Chairman, and members of the committee, to speak this morning by reason of my connection with the National Patent Planning Commission during the period from 1942 to 1945.

The National Patent Planning Commission was created on December 12, 1941, through Executive Order No. 8977 by the President of the United States. The Commission consisted of the following five members: Charles F. Kettering, Chester C. Davis, Francis P. Gaines, Edward F. McGrady, and Owen D. Young. The executive secretary of the Commission was the Commissioner of Patents, Conway P. Coe, and the executive director, Andrey A. Potter, dean of engineering at Purdue University.

Three reports were issued by the Commission in 1943, 1944, and 1945. In the preparation of these reports, the Commission realized that any changes in our patent system must insure maximum incentive to the inventor and definite encouragement to those who develop inventions into marketable products, keeping in mind that any weakening of our patent system would prove particularly harmful to the individual inventor of small means and to the thousands of small industries which Mr. Anderson has mentioned, which rely upon patented products to serve the public in competition with large corporations.

It must be remembered that nearly one-half of our patents are granted to individual inventors, more than one-third to small industries, and less than one-fifth to large industries.

Basing my judgment upon the studies of our patent system, which I made as executive director of the National Patent Planning Com-

mission, I am not in accord with the views of those who claim that the bills now before Congress, creating a National Science Foundation, are detrimental to the American patent system. I am convinced that our patent system is the best and soundest in the entire world, is the very lifeblood of American industry, and is an absolute necessity for the protection of investment in research, development, manufacture, and sale of new patentable devices and processes for the benefit of the public. But I cannot see how the proposed legislation would in any way reduce or injure the effectiveness of our great American patent system.

The objective of the National Science Foundation legislation is to encourage basic research which is the very foundation of the inventions of tomorrow. Few patents result from basic research. Such inventions as may be developed with the funds of the National Science Foundation—and they will be few—are protected by the wording in the bills now before the Congress, in that each contract is expected to contain provisions which will protect not only the public interest but also the equities of the individual or organization with which the contract is executed. Furthermore, there is a provision:

That nothing in this act shall be construed to authorize the Foundation, by any contractual or other arrangements, to alter or modify any provision of law affecting the issuance or use of patents.

Basic research on a scale commensurate with the dominant position of the United States in applied research and invention is a pressing national emergency. The magnitude and urgency of the task make Government support of such research through a National Science Foundation a necessity.

The Engineers' Joint Council, which represents the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineering, and the American Institute of Chemical Engineers, which in a sense represent the entire engineering profession, has consistently evidenced deep interest and concern in basic scientific research and has endorsed legislation in favor of a National Science Foundation.

The type of legislation proposed in H. R. 12, H. R. 1845, S. 247, and other identical bills now before Congress is the raw material which the engineer and inventor must have in order to develop new and better products, and greater conveniences for the public.

I thank you.

MR. PRIEST. Dr. Potter, we thank you so much.

Are there any questions?

MR. BIEMILLER. I simply would like to compliment the doctor on what I think is an excellent statement of the case for the bill.

MR. PRIEST. Thank you, Mr. Biemiller.

DR. POTTER. Thank you, gentlemen.

MR. PRIEST. Is Dr. Charles Waring in the room? Dr. Waring?

STATEMENT OF CHARLES E. WARING, CHAIRMAN, DEPARTMENT OF CHEMISTRY, UNIVERSITY OF CONNECTICUT, STORRS, CONN.

DR. WARING. Mr. Chairman, my name is Charles Waring. I am professor of chemistry and head of the chemistry department at the University of Connecticut. I appear here as chairman of a committee of the National Research Council.

Mr. O'HARA. Doctor, as a member of that council, you can tell me: Dr. Reyerson of the University of Minnesota is also a member, is he not?

Dr. WARING. Yes.

The panel on the Nation's potential for basic research in chemistry of the National Research Council is of the opinion that it is in the interest of national security to support scientific research in America at the highest possible level. History has proved time and again that nations which vigorously support scientific research have been in a better position to defend themselves in an emergency than are nations which have been backward in this respect.

If the United States is to maintain its world leadership in science and technology, it is imperative that its universities and nonprofit research institutions be provided with modern scientific apparatus and equipment. The depression of the thirties seriously reduced funds available to universities for research equipment. The war period took a heavy toll of existing equipment, with little or no opportunity for replacement. Complete modernization of laboratories would require a considerable capital expenditure. This means not only replacement and expansion of facilities for pure research, but also up-to-date apparatus for the training, at the undergraduate and graduate levels, of potential research workers.

Preliminary surveys by this panel indicate that the needs of universities and nonprofit research organizations for research equipment are substantial. Unless, in the establishment of the National Science Foundation, provision is made for grants to these institutions for purchase of permanent equipment, much of the effectiveness and intent of this act will be lost.

The importance of up-to-date equipment for research is well recognized by other countries. This is evidenced by the fact that a number of them have requested, and some have already received, funds from ECA for equipping their research laboratories with the best instruments and devices available. American scientists agree to the desirability of rehabilitating the laboratories of friendly foreign powers. At the same time scientists throughout the United States view with some concern the state to which the laboratories of our own universities and nonprofit institutions have deteriorated during the last 20 years. It is ironic that through ECA we are strengthening the scientific and technological potential of our present allies without giving due attention to the same problem in the United States.

The panel recommends that Congress give serious consideration to the matter of providing funds to universities and nonprofit research institutions for the purchase of scientific equipment for teaching and research to the end that the National Science Foundation when and if established may be of greatest benefit to the scientific effort of the United States.

Respectfully submitted, Warren C. Johnson, Lloyd H. Reyerson, and Charles E. Waring.

Mr. PRIEST. Thank you, Dr. Waring.

Are there any questions?

Mr. O'HARA. Yes.

Mr. Waring, do you remember how much of the ECA funds were allocated to these foreign governments for the purpose of purchasing scientific equipment?

Dr. WARING. I don't have exact figures, Mr. O'Hara. I believe it was around \$5,000,000 that went to Italy. I know Norway is requesting about the same, \$5,000,000, I believe, and I understand that to South America funds are being appropriated for agricultural research.

Mr. O'HARA. In doing good all over the world, we are inclined to forget about ourselves.

Dr. WARING. Yes. That is our feeling, sir.

Mr. O'HARA. What do you think would be the cost in dollars of the equipment necessary for the scientific research in this country; equipment, I am speaking of. Do you have any idea?

Dr. WARING. I would hesitate to quote figures that I would want to stand on after a survey. I would imagine it would be at least \$5,000,000. We are making a survey now of, I think, 60 institutions chosen on the basis of large universities, medium-sized universities, and small colleges, which do no graduate work, and we hope to have those figures in our hands within 2 weeks.

Mr. BIEMILLER. Mr. Chairman?

Mr. PRIEST. Mr. Biemiller.

Mr. BIEMILLER. Doctor, are you referring to just the normal equipment of laboratories and similar research institutions, or are you thinking of equipment like cyclotrons, and the like, in your testimony?

Dr. WARING. We have in mind more or less the modern scientific equipment that is usually indigenous to most laboratories, modern spectrographs, for example, which would enable students to be trained with up-to-date equipment and also would turn out research at a higher level and at a faster rate.

Mr. BIEMILLER. Thank you.

Mr. O'HARA. Doctor, do you not think \$5,000,000 would be rather a small start for laboratory and scientific equipment that might be needed in the colleges and research institutions of the country?

Dr. WARING. Yes; I do.

Mr. O'HARA. That would be very modest; would it not?

Dr. WARING. Well, I think that \$5,000,000 would certainly be a start. I would not recommend \$5,000,000 to this committee. As I say, I would not want to be quoted on that, because I might have different figures in 2 weeks, when we finish our survey. But so far, the indications have been, from small colleges, that they feel that they need fairly modest amounts for equipping their teaching laboratories with modern equipment.

We have been rather surprised at the returns that have come in. You would think that they would expect this to be a chance to grab at the barrel; instead of that, I think they are fairly honest.

Mr. WILSON. Mr. Chairman?

Mr. PRIEST. Mr. Wilson.

Mr. WILSON. I want to ask one question.

Dr. Waring, you may not desire to answer this. If not, just say so. Did you hear the testimony of Mr. Anderson?

Dr. WARING. Yes, I did.

Mr. WILSON. I want to ask you, because of the position in which you are, whether you entertain similar fears that any such foundation is foreign-inspired, or Communist-inspired.

Dr. WARING. No, sir; I do not.

Mr. PRIEST. Thank you.

May the Chair state that if there are others present who may have statements that they wish to be incorporated in the record, the committee will be very happy to have them at this point.

The Chair would like to ask also unanimous consent to include a number of statements, letters, and telegrams that have been sent in, at this point in the record.

Without objection, they will be included in the record. They all deal with the legislation under consideration at this time.

(The material referred to is as follows:)

Re National Science Foundation bills, H. R. 12, 185, 311, 359, 1845, 2308, 2751, and S. 247.

CHICAGO, ILL., April 18, 1949.

HON. J. PERCY PRIEST,

*Chairman, Subcommittee Public Health, Science, and Commerce
of Committee on Interstate and Foreign Commerce,*

House of Representatives, Washington, D. C.

DEAR CHAIRMAN PRIEST: Following are my views with respect to the above bills which I request be filed with the record that your committee is accumulating in the matter of a National Science Foundation.

I am a consulting chemical engineer and electrochemist. A large part of my experience during the past 39 years following my undergraduate work at the University of Wisconsin has been in research and development work. I have been particularly interested in the development and commercialization of new processes and products based on such research. I am registered to practice in the U. S. Patent Office (patent agent). I also am a registered professional engineer of the State of Illinois.

The above bills, which are being considered by your committee, are based on the presumption that a National Science Foundation is necessary for the future well-being of the United States. A science foundation of the right type could be of much value but the above bills do not provide for that kind of a foundation, which is exemplified by the foundation recommended several years ago in the Bush report. That report embodied the ideas of four competent committees.

The above bills are highly objectionable because they insure political control. Such political control results in the loss of confidence in the foundation by most scientists and technically trained persons who demonstrated during the recent war that they can do a splendid scientific job if they are free from political domination. Political domination or interference of any kind must be eliminated. The following quotation from the March 1949 Chemical Bulletin (published by the Chicago section of the American Chemical Society) expresses one scientist's opinion and I concur in it: "Science is of all subjects the one that ought to be kept free of politics. With science, so many incredible things are possible that even the most unsound ideas can be given an air of plausibility. For this reason, the intelligent politicians themselves prefer that the responsibility be given to people who know about science. Political domination is certain to result in waste, incompetence, and the pork barrel; conceivably, it could also result in the loss of scientific freedom and in the supplanting of able scientists by Lysenkos."

The above bills use the terms "basic scientific research," "fundamental research," and "scientific research relating to the national defense." Unfortunately, these terms are not defined in the bills. This leaves a big loophole for the carrying on of purely commercial or "applied" research, much of which would probably be defined as "engineering" by the true researcher. It should not be left to the courts to define "basic research," as we may end up with anything that can be done in a laboratory or with a slide rule in the absence of any clear delimitation by the scientists themselves.

As the Government takes on more and more of the commercial risks through the activities of a research foundation whose scope is not clearly limited, the field of private exploitation will be narrowed. As a result (again quoting from the Chemical Bulletin): "We will thus approach the totalitarian system in which the course of action is decided, not by the laws of supply and demand but by the all-wisdom of some central agency."

The following note of warning regarding Government-directed research was sounded by Harry A. Toulmin, Jr., in his address on the freedom of science, given on the occasion of the seventy-fifth anniversary of the department of chemistry at Ohio State University, Columbus, Ohio, on November 19, 1948 (reported

in Chemical and Engineering News for April 4, 1949, p. 980) : "History gives you fair warning to be vigilant of your scientific liberties. Germany was once an extraordinary nation of equally extraordinary scientists. Hitler reduced her sciences to a regimented pattern in a state that had murdered the profit motive of the capitalistic system that won the scientific race. Let us not permit our so-called science bills, our Government's easy-money patronage of research, Government-owned mass of patents, and the political domination of scientists into a regimented society delude us in making the same mistake."

I also agree with the following further statements made by Toulmin: "But to secure such a sense of obligation the Government must be wise and fair. The terms of the various science bills give me grave concern. They smack of rigid regulations instead of coordination of effort in the public cause by private and public institutions working as a team in the public interest.

"I see the danger of control by politicians who are not scientists; the danger of power of the director to grant or withhold research funds to control university policies and scientific activities; the power to subject to strong pressure by the Federal agency making the grants on complacent university administrations which will yield to get Federal business.

"The best analysis of this situation is contained in the report of the second meeting of the Inter-Society Committee for a National Science Foundation, which recommendations were endorsed by the distinguished dean of engineering, Charles F. MacQuigg, of this university. (Science, March 5, 1948, vol. 107, pp. 235-236.)

"Where things must be done to prevent overlapping of scientific effort to organize our facilities and to finance projects beyond the purse of private industry or public institutions and where general coordination and planning of the scientific attack upon our problems such as given by a general staff in the Army, I go along. But no further.

"When science bills purport to give dictatorial power, dogmatic control, and regimentation of scientists and scientific projects, I rebel. Every nation that has tried this control of science has committed suicide. Russia is doing it right now—and so long as she does it you need never worry about a Russian victory."

The greatest objection to these science bills is that they lay the dread hand of governmental bureaucracy on science. It is subservient to rules and regulations and civil-service requirements which insure preservation of mediocrity. Those of inferior ability find their level in these positions where they are kept through political affiliation and civil service and where one is discouraged from taking independent, constructive action in the field of science contrary to the host of rules and regulations. The foundation would produce only second-rate scientists under such conditions.

Proponents of this legislation state that the bills provide for integration and coordination of the numerous research activities of the various Government agencies. There is nothing which specifically provides that the foundation shall serve as a coordinating agency for Federal research. The past hearings on this subject have developed testimony that the proposed National Science foundation will be just another Government agency to be added to the 30 or more Federal agencies now doing research work.

Furthermore, the proposed foundation will not serve any need which cannot be met by these approximately 30 Federal agencies now engaged in scientific research with total annual expenditures of more than \$1,000,000,000. Many of these agencies are doing basic or fundamental research. For example, the Office of Naval Research alone is now supporting about 600 basic research projects in more than 150 colleges, universities, and other nonprofit institutions with a total expenditure of over \$21,000,000. It is only necessary to attend the meetings of the numerous scientific groups to learn of the vast amount of basic research which is being carried on under Government auspices. As a member of the publication committee of one of the scientific societies I had first-hand knowledge of the many scientific papers which are being offered for publication dealing with the data resulting from such research.

Aside from the above objectionable general aspects of the bills they contain many specific provisions which are most objectionable. Some are dangerous. Under the all-inclusive phraseology of some of the trick phrases (see for example, section 11 of H. R. 12) the foundation could appropriate almost without limit patents, patent rights, and material which would have only the slightest relation to public welfare and national security. Should the foundation be directed by an unscrupulous politician or ideologist, he could, under the powers granted him under some of the indicated provisions, yield tyrannical and dangerous power

over industry. And it could happen, for the reason that the foundation is given broad power to condemn and confiscate personal property and real estate, including patents necessary for or resulting from scientific research or development. For these reasons all such possibilities should be eliminated by careful revisions of these bills, and particularly, by the elimination of the political-control feature common to all of them. Scientists alone should direct and operate any foundation which may be created, as specified in the Bush report.

Again under section 4 (a) (2) of H. R. 12 it becomes possible to broaden the scope of the foundation to include the so-called social and economic sciences. These are highly controversial fields and the inclusion of them in the foundation would probably make it a political football and make it valueless insofar as the physical sciences are concerned.

I am opposed to the above National Science Foundation bills and I doubt that a foundation is necessary for the reasons given.

Sincerely yours,

O. W. STOREY.

MODINE MANUFACTURING CO.,
Racine, Wis., April 19, 1949.

Re H. R. 12, Eighty-first Congress, first session.

HON. J. PERCY PRIEST,

Chairman, Subcommittee on Public Health, Science, and Commerce of Committee on Interstate and Foreign Commerce,
Washington, D. C.

DEAR SIR: Will you please accept the following as testimony to your committee directed to the question of whether the subject bill should be reported out of committee. My remarks will not be as aptly phrased as I wish they might be but I will assure you that they express sincere conclusions following upon careful analysis:

1. I happen to hold an engineering degree. I have done engineering research work. I presently assist in directing engineering research work. It has been my experience and my observation that research at its best derives from competitive and incentive motivations. I have noted that research men operating under impersonalized subsidies "go through the motions" and commonly generate enough of tangible performance result to justify a continuation of their stipends—they rarely "catch on fire;" that is to say, they commonly lack the spontaneity and the creative approach to the challenge of research that the individual researchist or the member of an industrial research staff, so generally display.

There are exceptions of course. There are men who are so devoted to an intensive desire to better the state of their fellowmen that they need only that inspiration to cause them to devote themselves to their work.

But in the main an American produces best under the stimuli that are present in private enterprise, absent in governmentally endowed activity.

2. Our Federal Government, as I see it, should restrict its entry to projects which are too massive for the private citizen or private industry to undertake; or it should project itself into affairs that the private citizen or that private industry has evidenced inability to master.

Neither of these justifications can be advanced for H. R. 12. Nothing in the world's history has approached the progress of scientific research under American free enterprise. Hitler exploited in meteoric fashion the potential that had been accumulated by private industry within Germany for generations—but the meteor burned out. Stalin and his kind have endeavored by decree to will that Russian research should become dominantly strong—and the shortcoming of result there speaks for itself.

3. It can be soundly argued that private-enterprise research is wasteful. With corresponding assurance it can be advanced that our American basic form of government by checks and balances as between legislative, administrative, and judicial branches, is inherently wasteful; but in both cases the waste is accompanied by a tremendous outpouring of performance. Likewise in both cases there are present safeguards against tyranny.

4. The arguments advanced for Government coordination of scientific research to improve its result can be just as plausibly set forward in favor of Federal control of our musical composers, or for Federal birth control.

The simple fact is that the American people do not want to be improved in the cited categories by any form of Government coordination that is authoritarian in nature. I read intended authoritarianism from several passages in H. R. 12.

5. We need fewer rather than more of independent Government agencies. Hoover commission reports were not required to reveal the tremendous complication and almost unbelievable waste already existing in Federal independent agencies.

When one attempts to correct a complicated situation which is intensely bad his approach should not be that of first increasing those complications. A simple and effective tactic is to eliminate unessential elements which are parts of the undesirable situation, rather than to add on additional such elements.

6. In summary, I believe that the projected coordination of United States research activities under H. R. 12 would be a trespass of the affairs of the private citizen and of private industry, a needless trespass, a harmful trespass, a trespass unjustified in that there is no evidence of inadequacy of private individual research and private industry research in this country at the present. I feel that the very Government which H. R. 12 would project into new fields of experimental administration has a miserable mess of bureaucratic waste-fulsness and mismanagement on its hands right now which it ought to thoroughly clean up before it essays to enter a new area of lecturing its citizens and of directing them in their daily procedure.

Yours truly,

A. G. DIXON,
Vice President and Secretary.

REPORT OF SUBCOMMITTEE ON BILLS, THE PATENT LAW ASSOCIATION OF CHICAGO,
LEGISLATIVE COMMITTEE, RELATING TO NATIONAL SCIENCE FOUNDATION

Last year a subcommittee, consisting of Messrs. Glen E. Smith, Elwood Hansmann, and Foreman L. Mueller, reported on certain bills introduced in the Eightieth Congress, these bills being as follows: (1) H. R. 4852, (2) H. R. 5532, (3) H. R. 6007, and the companion Senate bill, S. 2385.

During the Eighty first Congress, so far as our information goes, the following bills have been introduced, all of which are very similar to each other and very similar to those of the Eightieth Congress, of which H. R. 6007 is typical: (1) H. R. 12, (2) H. R. 185, (3) H. R. 311, (4) H. R. 1845, with its companion Senate bill S. 247, (5) H. R. 2308.

In addition, there is H. R. 359 of the Eighty-first Congress, which differs from the other bills, but has the same fundamental objects in view.

With the exception of H. R. 359, all of the other bills provide in essence for the establishment of a National Science Foundation with 24 members to be appointed by the President, with the advice and consent of the Senate.

The powers and duties of the Foundation are to promote a national policy for basic research and education in the sciences, the mathematical, physical, medical, biological, and engineering sciences being specifically mentioned. The Foundation has the power to make contracts or other arrangements to further the objects of the Foundation, such as grants, loans, or other forms of assistance, and also has the power and duty of appraising the impact of the scientific development on industrial development, and upon the general welfare.

After consultation with the Secretary of Defense, the Foundation may initiate and support scientific research in fields pertaining to the national defense.

The Foundation is to have the power to grant scholarships and fellowships in various institutions of learning, and to promote the interchange of scientific information among scientists of the United States and foreign countries. It will correlate all scientific research and may appoint special commissions for investigation of specific subjects.

There is to be a Director of the Foundation appointed by the President, with the advice and consent of the Senate, at a salary of \$15,000 per year, who, according to the provisions of most bills, is to act in accordance with directives of the Executive Committee of the Foundation.

The Foundation is to have various divisions, such as (1) medical; (2) mathematical, physical and engineering science; (3) biological; (4) scientific personnel and education, including the granting of scholarships and fellowships.

Other divisions may also be provided for, as well as special commissions.

So far as patent rights are concerned, the Foundation may enter into contracts with individuals or organizations of such a nature as to protect the public interest and the equities of the individual or organization with which the contract is made. The employees of the Foundation are not to retain any rights in inventions which they make pertaining to the activities of the Foundation,

but may execute patent applications to be assigned to the Government or dedicated to the public.

The Foundation is to have the authority to cooperate in any international scientific research consistent with the purposes of the Foundation, and to expend money therefor within the limits of appropriated funds.

The Director, under the general direction of the Executive Committee of the Foundation, may employ personnel at fixed compensation in accordance with civil-service laws, and may also employ technical and professional personnel without regard to such laws.

The Foundation is not to itself operate any laboratories or pilot plants.

The Foundation is to have authority to do all things necessary to carry out the purposes of the proposed act, including the right to make rules and regulations covering the manner of operation of the Foundation, its organization and personnel. It is to have the right to make all necessary expenditures (of course, within the limits of appropriations), and to enter into contracts with individuals or organizations in the United States and foreign countries, including arrangements with Government agencies of the United States and those of foreign countries.

Research in regard to atomic energy is excluded from the operation of the bills, and in connection with arrangements in foreign countries all negotiations, etc., are to be conducted through the Secretary of State.

These are the generally similar provisions of all bills, with the exception of H. R. 359. However, the latter differs from the other bills in detail rather than fundamental concept.

H. R. 359

The administrative officer is to be known as the Administrator, appointed by the President, and with the advice and consent of the Senate, at a compensation of \$15,000 annually.

The Foundation is to have a Board of nine members, appointed by the President and with the consent of the Senate, plus the chairman of several divisional scientific committees. These committees consist of from 5 to 15 members, appointed by the Administrator with the advice and approval of the Board.

The various divisions of the Foundation specifically mentioned are (1) medical and physical sciences; (2) biological sciences; (3) social sciences; (4) Health and medical sciences; (5) national defense; (6) engineering and technology; (7) scientific personnel and education; (8) publications and information.

In addition, there may be other divisions not exceeding three in number.

The members of the Board and members of the divisional scientific committees normally serve for 3-year terms, and no member is eligible for continued service until the expiration of 1 year after his term of service has expired.

Members of the Board and divisional scientific committees receive compensation at the rate of \$50 per day when engaged on the business of the Foundation, plus travel and other expenses in connection with the work of the Board or the committee.

The Administrator may enter into various contracts in a way similar to what is provided for in the other bills.

There is a provision in the bill as to the distribution of funds to conduct research in various States and among the tax-supported colleges and universities in such States.

The Administrator may award scholarships and fellowships for scientific study or other work in the various fields of science.

It is provided that all contracts for federally financed research and development entered into between any Government agency and any organization shall make available to such agency full data on inventions, discoveries, and patent rights, including such reports as may be required by the agency. In turn, each Government agency upon the request of the Administrator of the Foundation shall make available to him such data and reports.

All inventions, discoveries, and so forth, in which the United States or any Government agency holds any rights, including patent rights, shall be made available to the public on a nonexclusive and royalty-free basis to the extent that the United States or the Government agency is entitled to do this, and any invention or discovery produced in the course of federally financed research, whether patented or not, is to be made freely available to the public.

The head of any Government agency financing research and development activities, by contract with any organization, may provide for the retention by the

organization doing the research, or by the inventor, of such rights as the head of the Government agency deems fair and equitable and consistent with the national interest, provided that the head of the Government agency before entering into the contract shall make every reasonable effort to arrange for the conduct of the necessary research without entering into a contract by which the organization doing the research would retain any rights.

This bill, like the others mentioned, provides for a cooperation in research with foreign governments and agencies thereof, and the financing of such research by the Foundation.

There is an Interdepartmental Committee, consisting of the Administrator of the Foundation and the heads of Government agencies concerned, which is to correlate the scientific research and development activities of the Government.

In its report of last year, the subcommittee stated the following conclusions:

"1. That it is not necessary to establish a National Science Foundation for the reason that basic research may be adequately provided for by existing agencies and executive action.

"2. That the bills as drawn are objectionable, for the reasons stated above, and are disapproved."

Your present subcommittee reporting on the present bills with the same fundamental objects concurs in the conclusions of last year's subcommittee.

It is believed that Government-financed research conducted by the proposed Foundation which is not under the supervision of any of the existing Government departments is fundamentally unsound.

By creating Government-financed scholarships and fellowships, for example, the tendency would be to centralize a Federal control over our institutions of learning. Research conducted at Government expense under the conditions mentioned would remove the incentives provided by our patent system, and it is believed would inevitably be conducted far less efficiently than when done by private enterprise.

Your subcommittee believes that any necessary research to be conducted under the supervision of the Government should be conducted by the various Government departments having Cabinet representation, such, for example, as the Department of Agriculture, the Department of Defense, etc.

One thing appears to be sure, and that is that the Foundation would add to the already heavy burden carried by taxpayers.

CONCLUSION

Your subcommittee therefore recommends that all of the bills for a National Science Foundation introduced in the Eighty-first Congress should be disapproved in principle.

Respectfully submitted.

HARRY W. LINDSEY, Jr.,
HAROLD OLSEN,
HENRY M. HUXLEY, *Chairman*.

FEBRUARY 23, 1949.

This report was approved by the legislative committee February 24, 1949, and was approved by the board of managers of the Patent Law Association of Chicago March 4, 1949.

UNIVERSAL OIL PRODUCTS CO.,
Chicago, Ill., April 22, 1949.

HON. J. PERCY PRIEST,

*Chairman, Subcommittee on Public Health, Science and Commerce
of the Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D. C.*

DEAR MR. PRIEST: It is my understanding that your subcommittee is considering testimony concerning National Science Foundation bill H. R. 12 and other bills on this subject. A careful study of these bills has prompted me to urge that the action of your subcommittee be unfavorable to the passage of them. H. R. 12 and similar bills contain a number of provisions which are counter to the best interests of the Nation.

One of the more objectionable of these provisions in section 11 (e) of H. R. 12 in which "the Foundation is specifically authorized * * * to acquire by purchase, lease, loan, or gift and to hold and dispose of by sale, lease, or loan,

real and personal property of all kinds necessary for, or resulting from, scientific research."

In essence, power is given a group of 24 appointed individuals to take over personal and real property. The Foundation would have the right to acquire and pool patents which could be an invasion of the rights of individual citizens and companies. This provision is of such far-reaching consequences that all research conducted by private enterprise could be driven underground. It would limit the protection to the inventor now given by the patent system and force him to operate in secrecy, whereas our present practices promote wide dissemination of scientific and technical knowledge through the publication of the patent.

The need for any patent provisions in H. R. 12 is questioned. Basic research, which is the only research mentioned in H. R. 12, is not patentable and should be published as soon as possible. Basic research means the study of fundamental laws of nature and the discovery of new ones, whereas applied research, which includes development, takes the fundamental laws of nature and converts them into pilot plants and commercial units with the view of producing products useful to our way of life.

The patent provisions of H. R. 12 are in themselves objectionable. Section 12 (b), under patent rights, is particularly bad, as stated:

"No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however*, That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish."

The provisions give the Director far too broad powers in regard to patents. He may prevent use of an invention regardless of the value it might have to the country. On the other hand, he may assign the invention to a nominee and thus establish a monopoly with benefits to a party who had nothing to do with the invention. Section 12 should be eliminated entirely.

Section 6 (a) makes no provision that the Director be a person of experience in scientific research or in its administration. The Director should have a record of long and thorough experience in scientific research and have a reputation at least national in scope. It is imperative that he know what science is all about and not completely dependent on assistants. The value of a science foundation would be seriously decreased if the Director were not a highly qualified man. Subsequent provisions give said Director dictatorial powers. It is believed that a Director without dictatorial powers, elected by the members of the Foundation, would insure better administration. The Director should be elected by his peers.

H. R. 12 contains no provisions for the integration of numerous research facilities which the Government already has in many departments. Inasmuch as Government agencies have a number of basic research projects in operation, coordination is necessary before a new agency embarks on a program of its own. According to Steelman's Science and Public Policy, volume 1, page 12, the Government is spending \$55,000,000 a year on basic research alone. In volume 2, page 56, it is stated that the Office of Naval Research is supporting about 600 projects in over 150 colleges, universities, and other nonprofit institutions. If there is to be a National Science Foundation some provisions should be made to prevent duplication of the activities of other governmental projects.

Sincerely yours,

GUSTAV EGLOFF,
*Director of Research, Universal Oil Products Co.
and President, Chicago Technical Societies Council.*

STATEMENT OF E. A. TERRELL, PRESIDENT OF THE TERRELL MACHINE CO. OF
CHARLOTTE, N. C., REPRESENTING THE TERRELL MACHINE CO.

Subject: National Science Foundation Act of 1949, H. R. 12.

*To the House Subcommittee on Public Health, Science, and Commerce of the
Committee on Interstate and Foreign Commerce:*

I wish to express my thanks to the chairman and members of this committee for extending the time for hearings on the above bill and for permitting the inclusion of my statement in the hearing.

I am making this statement on behalf of my company and myself and based upon 32 years of actual experience in the development of new or improved machinery primarily for the textile industry. During that period I have personally secured about 45 patents and my company has assisted in the commercial development of many inventions of employees and outside inventors, and has given advice and services in securing patent protection for them. Our company employs a total of 89 persons in its shop, office, and sales force. Its plant occupies a total of 30,000 square feet, so it is truly in the small business class.

I am opposed to the National Science Foundation Act of 1949 in its entirety on the general grounds that it is not necessary and that it will undoubtedly result in overlapping of work in many existing fields of research and is therefore a needless expense to the taxpayers.

However, I shall confine my remarks to specific features which I feel are dangerous and inimical to independent firms and inventors, including both large and small business. If the bill is to be passed at all, it seems to me it should at least be amended in several fundamental respects. These are as follows:

Section 3. Unless otherwise separately provided, I believe that any appointee to the Foundation should execute an anti-Communist oath. The prominence of such scientists as Dr. Harlow Shapley of Harvard University, and of Prof. Dirk J. Struik of Massachusetts Institute of Technology, indicates the need of such a provision.

Section 4, and other sections containing the same broad inclusion, "and other sciences" should be amended to provide for congressional control and approval over the extent to which the term "science" may be applied. Otherwise, with the broad wording now in the bill, the Foundation could undoubtedly enter fields which members of the Congress nor any one else can at present visualize.

Section 6 (b). This section provides that the Director may act entirely on his own initiative in all matters not prescribed by the executive committee, except as to authority granted by par. (c) of sec. 11. I feel that this section should provide that the Director shall exercise the power set forth in this act within the policies developed by the Foundation, and with the approval of the executive committee in all cases.

Section 11 (e): I am informed that if the power "to acquire by purchase" is given by the Congress, the judicial interpretations include the power to acquire property by the exercise of the power of eminent domain. Since this section relates to real and personal property of all kinds, it would necessarily follow that patent rights, plants, and other property may be taken from their rightful owners by the Foundation. If this provision is to remain in the bill I feel that that this interpretation of the word "purchase" should be limited to exclude the exercising of the power of eminent domain. Moreover, if the Foundation should acquire any patents from any source whatever, I believe that such patents should be immediately dedicated to the public and made available to any citizen, partnership, or corporation of the United States, or of any State thereof. Ample provision already exists for the protection of secrecy in case of inventions relating to national security.

Section 12 (b): This section should be amended in similar fashion to section 11 (e), to provide that any patent granted to the Foundation, or acquired by it in any way whatsoever, should be dedicated to the public and should under no circumstances be assigned to a nominee of the Government. This latter provision is an exceedingly dangerous one under which Government-controlled monopolies may easily be created to the great detriment of private, competitive industry.

In section 15 (a) page 16, lines 8 and 9, I believe the words "except with the approval of executive committee" should be omitted, making it mandatory that neither the Director nor the Deputy Director may hold any office, or act in any capacity for any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this act.

In conclusion, I respectfully submit that this bill offers great dangers to independent inventors who have been and still are the backbone of our industrial progress, and that a grave injustice will be done to these citizens, and to our industry as a whole, if this bill is passed in its present form.

Respectfully yours,

E. A. TERRELL.

APRIL 22, 1949.

STATEMENT OF J. DOUGLAS ROBERTSON, PRESIDENT, MOUNT HOPE MACHINERY CO.,
 TAUNTON, MASS., PERTAINING TO NATIONAL SCIENCE FOUNDATION BILLS, H. R.
 12, H. 185, H. R. 311, H. R. 359, H. R. 1845, H. R. 2308, H. R. 2751, AND S. 247
 WITH RESPECT TO PATENT PROVISIONS OF THE BILLS

Mr. Chairman and members of the subcommittee, my name is J. Douglas Robertson. Taunton, Mass., has been my home since I was a small boy. My address is 2 Dean Street. My business address is Mount Hope Machinery Co., 42 Adams Street, Taunton, Mass. I am a graduate of the Massachusetts Institute of Technology. From graduation until 1941, I was employed as a mechanical engineer, except for 2 years in the United States Army, and 3 years in an unsuccessful business venture. I have taken out a number of patents. I was working on the first patent while I was still at the institute.

At the risk of appearing boastful, I believe my personal experience is the best proof I know that the patent provisions of these bills are definitely harmful, maybe fatal, to world supremacy of the American standard of living and perhaps even to maintenance of our national independence.

After I was honorably discharged from the Army as a captain, I returned to work as a mechanical engineer at the place where I had been employed prior to the war. At the end of about a year, I raised some money by selling stock to my friends and acquaintances, and started a business making stove bolts. This was an unsuccessful venture, because it was a small enterprise, employing about a half-dozen people, attempting to compete in a mass production market without any fundamental improvement in products or processes. At the end of the 5 or 6 years the business went through bankruptcy with total loss of whatever money was put in the venture. I went back to work as a mechanical engineer for the largest local concern.

I had learned the lesson that merely duplicating existing facilities for the manufacture of an article in normal supply contributes nothing to the benefit of the country and the laws of business soon remove it. The only chance of making a success of a new business is to provide something that is better or cheaper than previously available. I spent my spare time trying to think of something to make that would be better than existing competing articles so that I might get back into business. It was 16 years after my first business failed before I saw an opportunity to get into business again. During this time I took out several patents in the course of my work and assigned them to my employers. In this case I secured a license to manufacture an article under a patent owned by someone else. I was able to get this license because I agreed to pay a higher patent royalty than someone else would pay. The only reason I could do this was because I had the exclusive right to make and sell this device and I knew that during the life of the patent I would have a monopoly on this device. I could not have risked borrowing money to put it into a device that anyone else could make and deprive me of my business just as soon as I had demonstrated that it was a good item.

With the bread and butter provided by the sales of this device, I then went to work experimenting to make other items on which I could secure patents that would permit me to get on my feet and further establish myself in business before anyone else had the right to use them, by reason of the patents expiring. At the present time, the first of these new items which I patented, represents a larger part of our business than the item on which the business was founded. This new item is being used in this country and abroad in the textile, paper, plastic film, and tire-cord industry, and is definitely lowering the cost of production of these items manifold compared with the cost of the item itself. My business furnishes employment for 35 to 50 people.

The example cited is typical of the ordinary way in which businesses are started under the incentive of our present patent laws. There is nothing remarkable about them. It is the natural result of cause and effect.

When a law has demonstrated its ability to produce the best results in the world as our own patent law has done, it would seem obvious that anyone attempting to change it would have to prove beyond a shadow of doubt that the country would be benefited by the change and that his past actions and associations cast no suspicions on his patriotic loyalty.

The patent provisions of these bills definitely permit the Government to put anyone out of business who is progressive enough to be producing modern patented items. It is definitely a fundamental step toward the communistic state.

Government-owned patents are inconsistent with a democracy.

Do not permit the Government to hold any patents.

J. DOUGLAS ROBERTSON.

STATEMENT OF CLARENCE E. BEACH, CONSULTING ENGINEER, BINGHAMTON, N. Y., TO SUBCOMMITTEE ON PUBLIC HEALTH, SCIENCE, AND COMMERCE, OF THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE PUBLIC HEARINGS ON NATIONAL SCIENCE FOUNDATION BILLS, H. R. 12, H. R. 185, H. R. 311, H. R. 359, H. R. 1845, H. R. 2308, H. R. 2751, AND S. 247, WITH RESPECT TO PATENT PROVISIONS OF THE BILLS

Mr. Chairman and members of the subcommittee, by name is Clarence E. Beach. My home address is Binghamton, N. Y.

I am a professional engineer in private practice. My activities include development of products proposed by clients, with a view of most effectively meeting needs of prospective customers and facilitating economical manufacture.

Before your committee acts upon the bill above referred to, I urge your consideration of the following statements.

Enactment of H. R. 12, in its present form, will place upon one man (the Director) responsibilities for making decisions the effects of which may well be devastating to incentive for undertakings which are of incalculable importance to the well-being of our entire country.

As H. R. 12 now reads, the Director would be given power to institute procedures which an endangered party would be unable to have set aside until he had suffered irreparable injury.

In fact, only a person with extensive resources would have any prospect of being able to succeed, even after years of work, in any effort to be released from the effects of procedures such as might be undertaken pursuant to the powers granted to the Director under this bill—no matter how unfair and unreasonable such procedures might prove to have been.

Even granting, for the purposes of discussion, that the Director will be a man fully lacking in desire for anything which will benefit him personally, and completely free from tendency to be influenced (consciously or unconsciously) by close personal friends or former business associates (and it is not safe to assert that no such man lives?) there would be so great a multitude of important matters concerning which he would be required to make the controlling decision (under the requirements of this bill) that he would constantly have to rely exclusively upon reports and recommendations made to him by others.

It is only reasonable to presume that, under such circumstances, those upon whom the Director would be compelled to rely would, inevitably, include persons who would make recommendations of character which would:

- (1) Benefit enemy countries by impairing the effectiveness of our industries.
- (2) Destroy competitors of friends or employers.
- (3) Gratify private grudges.

(4) Attempt to inaugurate destructive economic policies, which policies are based upon ideals of a highly impractical nature.

In this connection it should be noted that although laws have been enacted for the purpose of guarding against infiltration into government agencies by persons having purposes subversive to the safety of our Government and people, a number of important ones of such laws are (by this proposed bill) made inapplicable to appointees of the Director.

Without such protection as is provided by these laws, the dependability of those appointed by the Director would be at the mercy of the influence of persons who could (maliciously or ignorantly) urge appointment of those whose mistaken ideas, prejudices and/or selfish interests would prompt misleading reports and recommendations.

With the heavy duties imposed upon the Director, it would be impossible for him to devote sufficient time to investigate each member and employee to an extent such as a man who is both capable and conscientious would deem highly important.

Because of the hazards that would be present in a Foundation established in accordance with the bills referred to, any person having occasion to make substantial investments of time, effort and money in projects having possibilities of great public benefit will be dissuaded from embarking upon development of such projects, whenever such persons realize the danger of having their work and investment swept away at the caprice of one man, as could well be expected if a Foundation is organized as contemplated by these proposed bills.

In this connection it should be recognized that the greater the potential benefit a given project might be expected to give to the country at large—the greater the

likelihood that the provisions of the law proposed by this bill would be invoked for effecting practical confiscation of the entire project.

Such confiscation would be calculated to wipe out all prospects of pecuniary advantage of any extent at all commensurate with the risks which would have to be taken in expenditure of time, effort, and money if the project is to be brought to a usable stage of development.

In fact, any person or group who might bring such a project to a successful culmination could only look to the possible generosity of one man (The Director) for any worth-while compensation, other than at the termination of litigation extending through years and in which they would be opposed by a governmentally financed organization.

It is well recognized that only a minor proportion, of such development projects as are undertaken, ever come to a successful stage of development. Hence, unless there is prospect of a return substantially in excess of the original cash investment (which is all that the Director is likely to see his way clear to grant to the ordinary applicant) there is no incentive for devoting a large amount of time and effort, and incurring an extensive cash investment, if the possible return is likely to be limited to a figure based upon the cash investment.

Because of the foregoing facts, the effect of the enactment of any of these bills will inevitably be opposite to the purpose expressed in the preamble, in the words "To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes."

Considered from still another angle, the results of enactment of any of these bills would be highly objectionable in that they contemplate the setting up of an additional bureau in the Federal Government, at very substantial cost to the taxpayers, which bureau would not be calculated to accomplish any results which would be beneficial to others than those thereby placed upon the public pay roll. This is so because every proper and worth-while purpose which might be accomplished by a Foundation organized as contemplated by these bills may be obtained by utilization of governmental facilities already in existence.

In view of each and all of the foregoing facts, I respectfully urge that your committee withhold its approval of these bills; and I further urge that you recommend that these bills be not enacted.

Respectfully submitted.

CLARENCE E. BEACH.

BINGHAMTON, N. Y., April 19, 1949.

STATEMENT OF GEORGE H. ELWELL, OF NEW HAVEN, CONN., OPPOSING BILL H. R. 12,
NATIONAL SCIENCE FOUNDATION

The writer opposes the House bill 12 in any form:

Because it is indefinite and its intent is to create just another research agency with unlimited activity save only that in the field of atomic energy, the Foundation proposed creating an authority capable of tendency to help exhaust the Treasury and burden corporate and masses of living beings with heavy taxation;

Because of its confiscatory nature with regard to wanted real and personal property including patents owned by business and individuals;

Because that, while the bill gives the appearance of being confined to basic research, it is conceded that applied research would be undertaken in instances of assumed need and in opening up the functions of the Foundation to all groups, including social activities;

Because that among those who advocate the passage of such a bill are men like Dr. Harlow Shapley, who has a long record of affiliation with groups labeled as communistic by the House Un-American Activities Committee. It would seem more than possible that under such influence the Foundation might create a Division of Social Research (one of such "other sciences" H. R. 12 bill, secs. 7, 4) establishing a bulwark of defense in favor of socialized medicine which has little approval of the people at this time; and

Because the bill H. R. 12 gives too great authority to the Director, substantially that of a dictator, especially with regard to confiscatory rights in the forceful acquisition of property of business and that of individuals.

HARNESS, DICKEY & PIERCE,
Detroit, April 26, 1949.

Re National Science Foundation bills.

HON. J. PERCY PRIEST,
*Chairman, Subcommittee on Public Health,
 Science and Commerce Committee on Interstate and Foreign Commerce,
 House Office Building, Washington, D. C.*

SIR: I would appreciate it if you will receive the following as a written statement of my views to be filed in connection with the hearings which you are holding on the above bills.

I am a practicing patent lawyer, and, as such, am and have been associated with scientific research and development for more than 30 years.

It is my opinion that a National Science Foundation, putting our Government in the business of carrying on research, is unnecessary and undesirable because—

1. Research of this character is already being carried on under private sponsorship and has functioned so efficiently as to make our country a leader in this field.

2. Government sponsorship of such activities will be inefficient and expensive and will tend to discourage private activity to the actual detriment of our scientific progress.

3. Government departments already have the power and authority to finance scientific investigations and such work is being and has been carried on under this authority so that the formation of the National Science Foundation would simply add another governmental bureau without accomplishing any additional results.

In addition to the foregoing, I am opposed to the specific bills which have been introduced on this subject because they do not necessarily limit the activities to purely basic technical research but would permit investigations in social science.

Moreover, and perhaps most important of all, the National Science Foundation bill now under investigation by your committee contains a dangerous provision wherein the Foundation is given authority "to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real or personal property of all kinds necessary for, or resulting from scientific research." This provision would permit the Foundation to acquire and control patent properties which are not necessary for the purpose of furthering on behalf of the Government scientific developments and would tend to put the Government in business, to the detriment of private enterprise.

Very truly yours,

J. KING HARNESS.

CHICAGO, ILL., *April 26, 1949.*

HON. J. PERCY PRIEST,
*Chairman, Subcommittee on Public Health, Science, and Commerce
 of the Committee on Interstate and Foreign Commerce,
 House Office Building, Washington, D. C.:*

The National Science Foundation bill now under your consideration should be opposed as inimical to free enterprise and to the welfare of scientists.

The bill purports to cover basic research, but no adequate delimitation of that concept is made in the bill, nor has any been successfully achieved by scientists themselves. The patent provisions of the bill show clearly its intent to cover applied research as well. Industrial research, which is one of the pillars of free enterprise, is an entrepreneurial activity—gamble in anticipation of making a profit. If the Government sponsors applied research on the unlimited scale provided for in this bill, the areas of speculation will soon be preempted. The incentive to perform research in areas likely to lead to economic welfare will be destroyed as effectively as it would be by the demolishing of the patent system, which has also been attempted.

The scholarship provisions of the bill are unnecessary and harmful to the interests of scientists. Claims that there is a shortage of scientific personnel emanate for the most part from two classes—employers of scientists and teachers of scientists. To my knowledge, none have ever emanated from the vast body of scientists who have been recently seeking new positions at adequate remuneration. Employment of scientists is in recession at this moment and, relative to the number available, will continue to recede in the next few years.

There is a shortage of skilled workers in the building trades also. Has the Government planned to subsidize apprenticeships for the building trades? The answer is "No," and the reason is that there has been an organized group to

oppose such action. Industrial scientists, having no such spokesman, have not been adequately represented at previous hearings on these bills which have been dominated by proponent groups.

I urge that the bill be reported unfavorably.

LOUIS KOENIG,

Associate Editor, Chemical Bulletin.

Mr. PRIEST. That concludes the hearings, and the committee will stand adjourned.

(Whereupon, at 12:03 p. m., hearing in the above-entitled matter was closed.)

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81ST CONGRESS
1ST SESSION

H. R. 4846

IN THE HOUSE OF REPRESENTATIVES

MAY 24, 1949

Mr. PRIEST introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Foun-
4 dation Act of 1949".

5 ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

6 SEC. 2. There is hereby established in the executive
7 branch of the Government an independent agency to be
8 known as the National Science Foundation (hereinafter
9 referred to as the "Foundation"). The Foundation shall

1 consist of a National Science Board (hereinafter referred
2 to as the "Board") and a Director.

3 FUNCTIONS OF THE FOUNDATION

4 SEC. 3. (a) The Foundation is authorized and directed—

5 (1) to develop and encourage the pursuit of a na-
6 tional policy for the promotion of basic research and edu-
7 cation in the sciences;

8 (2) to initiate and support basic scientific research
9 in the mathematical, physical, medical, biological, engi-
10 neering, and other sciences, by making contracts or other
11 arrangements (including grants, loans, and other forms
12 of assistance) for the conduct of such basic scientific
13 research and to appraise the impact of research upon
14 industrial development and upon the general welfare;

15 (3) after consultation with the Secretary of De-
16 fense, to initiate and support scientific research in con-
17 nection with matters relating to the national defense
18 by making contracts or other arrangements (including
19 grants, loans, and other forms of assistance) for the
20 conduct of such scientific research;

21 (4) to award, as provided in section 10, scholar-
22 ships and graduate fellowships in the mathematical,
23 physical, medical, biological, engineering, and other
24 sciences;

25 (5) to foster the interchange of scientific informa-

1 tion among scientists in the United States and foreign
2 countries;

3 (6) to correlate the Foundation's scientific research
4 programs with those undertaken by individuals and by
5 public and private research groups;

6 (7) to establish such special commissions as the
7 Board may from time to time deem necessary for the
8 purposes of this Act; and

9 (8) to maintain a register of scientific and tech-
10 nical personnel and in other ways provide a central
11 clearinghouse for information covering all scientific and
12 technical personnel in the United States, including its
13 Territories and possessions.

14 (b) In exercising the authority and discharging the
15 functions referred to in subsection (a) of this section, it
16 shall be one of the objectives of the Foundation to strengthen
17 basic research and education in the sciences, including inde-
18 pendent research by individuals, throughout the United
19 States, including its Territories and possessions, and to avoid
20 undue concentration of such research and education.

21 (c) The Foundation shall render an annual report to
22 the President for submission on or before the 15th day
23 of January of each year to the Congress, summarizing the ac-
24 tivities of the Foundation and making such recommendations
25 as it may deem appropriate. Such report shall include in full

1 the report of the Executive Committee to the Board, pro-
2 vided for in section 6 (e), and information as to the acqui-
3 sition and disposition by the Foundation of any patents and
4 patent rights.

5 NATIONAL SCIENCE BOARD

6 SEC. 4. (a) The Board shall consist of twenty-four
7 members to be appointed by the President, by and with the
8 advice and consent of the Senate, and of the Director ex
9 officio, and shall, except as otherwise provided in this Act,
10 exercise the authority granted to the Foundation by this
11 Act. The persons nominated for appointment as members
12 (1) shall be eminent in the fields of the basic sciences,
13 medical science, engineering, agriculture, education, or
14 public affairs; (2) shall be selected solely on the basis of
15 established records of distinguished service; and (3) shall
16 be so selected as to provide representation of the views
17 of scientific leaders in all areas of the Nation. The
18 President is requested, in the making of nominations of
19 persons for appointment as members, to give due considera-
20 tion to any recommendations for nomination which may be
21 submitted to him by the National Academy of Sciences, the
22 Association of Land Grant Colleges and Universities, the
23 National Association of State Universities, the Association
24 of American Colleges, or by other scientific or educational
25 organizations.

1 (b) The term of office of each voting member of the
2 Board shall be six years, except that (1) any member ap-
3 pointed to fill a vacancy occurring prior to the expiration
4 of the term for which his predecessor was appointed shall
5 be appointed for the remainder of such term; and (2) the
6 terms of office of the members first taking office after the
7 date of enactment of this Act shall expire, as designated
8 by the President at the time of appointment, eight at the
9 end of two years, eight at the end of four years, and eight at
10 the end of six years, after the date of enactment of this
11 Act. Any person who has been a member of the Board
12 for twelve consecutive years shall thereafter be ineligible
13 for appointment during the two-year period following the
14 expiration of such twelfth year.

15 (c) The President shall call the first meeting of the
16 Board, at which the first order of business shall be the elec-
17 tion of a chairman and a vice chairman.

18 (d) The Board shall meet annually on the first Mon-
19 day in December and at such other times as the Chairman
20 may determine, but he shall also call a meeting whenever
21 one-third of the members so request in writing. A majority
22 of the voting members of the Board shall constitute a
23 quorum. Each member shall be given notice, by registered
24 mail mailed to his last-known address of record not less than
25 fifteen days prior to any meeting, of the call of such meeting.

1 (e) The first Chairman and Vice Chairman of the
2 Board shall be elected by the Board to serve until the
3 first Monday in December next succeeding the date of elec-
4 tion at which time a Chairman and Vice Chairman shall
5 be elected for a term of two years. Thereafter such election
6 shall take place at the annual meeting occurring at the end of
7 each such term. The Vice Chairman shall perform the duties
8 of the Chairman in his absence. In case a vacancy occurs in
9 the chairmanship or vice chairmanship, the Board shall elect
10 a member to fill such vacancy.

11 DIRECTOR OF THE FOUNDATION

12 SEC. 5. (a) There shall be a Director of the Foundation
13 who shall be appointed by the President, by and with
14 the advice and consent of the Senate, after receiving recom-
15 mendations from the Board. He shall serve as a non-
16 voting ex officio member of the Board and also as the
17 nonvoting Chairman of the Executive Committee. In addi-
18 tion thereto he shall be the chief executive officer of the
19 Foundation. The Director shall receive compensation at the
20 rate of \$15,000 per annum and shall serve for a term of six
21 years unless sooner removed by the President.

22 (b) In addition to the powers and duties specifically
23 vested in him by this Act, the Director shall, in accord-
24 ance with the policies established by the Board, exercise
25 the powers granted by sections 10 and 11 of this Act,

1 together with such other powers and duties as may be
2 delegated to him by the Board; but the powers granted by
3 sections 10 and 11 (c) shall be exercised only with the
4 approval of the Board.

5 EXECUTIVE COMMITTEE

6 SEC. 6. (a) There is hereby established an Executive
7 Committee of the Board which shall consist of the Director
8 ex officio and nine other members elected by the members of
9 the Board from among their number. The term of office
10 of each member of the Executive Committee shall be two
11 years except that (1) any member elected to fill a vacancy
12 occurring prior to the expiration of the term for which his
13 predecessor was elected shall be elected for the remainder of
14 such term; and (2) the term of office of four of the members
15 first elected after the date of enactment of this Act shall be
16 one year. Any person who has been a member of the Execu-
17 tive Committee for six consecutive years shall thereafter be
18 ineligible for election during the two-year period following
19 the expiration of such sixth year. The membership of the
20 Executive Committee shall, so far as practicable, be repre-
21 sentative of diverse interests and shall be so chosen as to
22 provide representation, so far as practicable, for all areas
23 of the Nation.

24 (b) In addition to the powers and duties specifically
25 vested in it by this Act, the Executive Committee shall

1 exercise such powers and duties as may be delegated to it
2 by the Board.

3 (c) The Executive Committee shall meet at the call of
4 its chairman or at such times as may be fixed by itself, but
5 not less than six times each year.

6 (d) A majority of the voting members of the Executive
7 Committee shall constitute a quorum.

8 (e) The Executive Committee shall render an annual
9 report to the Board, and such other reports as it may
10 deem necessary, summarizing the activities of the Executive
11 Committee, making such recommendations as it may deem
12 appropriate, and setting forth the recommendations of the
13 divisional committees and special commissions. Minority
14 views and recommendations, if any, of members of the
15 Executive Committee, the divisional committees, and special
16 commissions shall be included in such reports.

17 DIVISIONS WITHIN THE FOUNDATION

18 SEC. 7. (a) Until otherwise provided by the Board
19 there shall be within the Foundation the following divisions:

20 (1) A Division of Medical Research;

21 (2) A Division of Mathematical, Physical, and En-
22 gineering Sciences;

23 (3) A Division of Biological Sciences; and

24 (4) A Division of Scientific Personnel and Education,
25 which shall be concerned with programs of the Foundation

1 relating to the granting of scholarships and graduate fellow-
2 ships in the mathematical, physical, medical, biological, en-
3 gineering, and other sciences.

4 (b) There shall also be within the Foundation such
5 other divisions as the Board may, from time to time, deem
6 necessary.

7 DIVISIONAL COMMITTEES

8 SEC. 8. (a) There shall be a committee for each divi-
9 sion of the Foundation.

10 (b) Each divisional committee shall be appointed by
11 the Executive Committee and shall consist of not less than
12 five persons who may be members or nonmembers of the
13 Board.

14 (c) The terms of members of each divisional com-
15 mittee shall be two years. Each divisional committee shall
16 annually elect its own chairman from among its own mem-
17 bers and shall prescribe its own rules of procedure, subject
18 to such restrictions as may be prescribed by the Executive
19 Committee.

20 (d) Each divisional committee shall make recommenda-
21 tions to, and advise and consult with, the Executive Com-
22 mittee and the Director with respect to matters relating to
23 the program of its division.

1 SPECIAL COMMISSIONS

2 SEC. 9. (a) Each special commission established
3 pursuant to section 3 (a) (7) shall consist of eleven
4 members appointed by the Executive Committee, six of
5 whom shall be eminent scientists and five of whom
6 shall be persons other than scientists. Each special com-
7 mission shall choose its own chairman and vice chairman.

8 (b) It shall be the duty of each such special commis-
9 sion to make a comprehensive survey of research, both
10 public and private, being carried on in its field, and to
11 formulate and recommend to the Foundation at the earliest
12 practicable date an over-all research program in its field.

13 SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

14 SEC. 10. The Foundation is authorized to award,
15 within the limits of funds made available specifically for
16 such purpose pursuant to section 15, scholarships and
17 graduate fellowships for scientific study or scientific work in
18 the mathematical, physical, medical, biological, engineering,
19 and other sciences at accredited nonprofit American or non-
20 profit foreign institutions of higher education, selected by
21 the recipient of such aid, for stated periods of time. Persons
22 shall be selected for such scholarships and fellowships from
23 among citizens of the United States, and such selections shall
24 be made solely on the basis of ability; but in any case in
25 which two or more applicants for scholarships or fel-

1 lowships, as the case may be, are deemed by the
2 Foundation to be possessed of substantially equal ability,
3 and there are not sufficient scholarships or fellowships,
4 as the case may be, available to grant one to each of such
5 applicants, the available scholarship or scholarships or
6 fellowship or fellowships shall be awarded to the applicants
7 in such manner as will tend to result in a wide distribution
8 of scholarships and fellowships among the States, Territories,
9 possessions, and the District of Columbia.

10 GENERAL AUTHORITY OF FOUNDATION

11 SEC. 11. The Foundation shall have the authority,
12 within the limits of available appropriations, to do all things
13 necessary to carry out the provisions of this Act, including,
14 but without being limited thereto, the authority—

15 (a) to prescribe such rules and regulations as
16 it deems necessary governing the manner of its opera-
17 tions and its organization and personnel;

18 (b) to make such expenditures as may be necessary
19 for administering the provisions of this Act;

20 (c) to enter into contracts or other arrangements,
21 or modifications thereof, for the carrying on, by organ-
22 izations or individuals in the United States and foreign
23 countries, including other government agencies of the
24 United States and of foreign countries, of such basic
25 scientific research activities and such scientific research

1 activities in connection with matters relating to the
2 national defense as the Foundation deems necessary to
3 carry out the purposes of this Act, and, when deemed
4 appropriate by the Foundation, such contracts or other
5 arrangements, or modifications thereof, may be entered
6 into without legal consideration, without performance
7 or other bonds, and without regard to section 3709 of
8 the Revised Statutes;

9 (d) to make advance, progress, and other pay-
10 ments which relate to scientific research without regard
11 to the provisions of section 3648 of the Revised Statutes
12 (31 U. S. C., sec. 529) ;

13 (e) to acquire by purchase, lease, loan, or gift,
14 and to hold and dispose of by sale, lease, or loan, real
15 and personal property of all kinds necessary for, or
16 resulting from, the exercise of authority granted by this
17 Act;

18 (f) to receive and use funds donated by others,
19 if such funds are donated, without restriction, other than
20 that they be used in furtherance of one or more of the
21 general purposes of the Foundation;

22 (g) to publish or arrange for the publication of
23 scientific and technical information so as to further
24 the full dissemination of information of scientific value

1 consistent with the national interest, without regard to
2 the provisions of section 87 of the Act of January 12,
3 1895 (28 Stat. 622), and section 11 of the Act of
4 March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111) ;

5 (h) to accept and utilize the services of voluntary
6 and uncompensated personnel and to provide transpor-
7 tation and subsistence as authorized by section 5 of
8 the Act of August 2, 1946 (5 U. S. C. 73b-2) for per-
9 sons serving without compensation; and

10 (i) to prescribe, with the approval of the Comp-
11 troller General of the United States, the extent to which
12 vouchers for funds expended under contracts for scien-
13 tific research shall be subject to itemization or substan-
14 tiation prior to payment, without regard to the limita-
15 tions of other laws relating to the expenditure of public
16 funds and accounting therefor.

17 PATENT RIGHTS

18 SEC. 12. (a) Each contract or other arrangement exe-
19 cuted pursuant to this Act which relates to scientific research
20 shall contain provisions governing the disposition of inven-
21 tions produced thereunder in a manner calculated to protect
22 the public interest and the equities of the individual or organ-
23 ization with which the contract or other arrangement is
24 executed: *Provided, however,* That nothing in this Act shall

1 be construed to authorize the Foundation to enter into any
2 contractual or other arrangement inconsistent with any
3 provision of law affecting the issuance or use of patents.

4 (b) No officer or employee of the Foundation shall
5 acquire, retain, or transfer any rights, under the patent laws
6 of the United States or otherwise, in any invention which
7 he may make or produce in connection with performing his
8 assigned activities and which is directly related to the subject
9 matter thereof: *Provided, however,* That this subsection
10 shall not be construed to prevent any officer or employee of
11 the Foundation from executing any application for patent
12 on any such invention for the purpose of assigning the same
13 to the Government or its nominee in accordance with such
14 rules and regulations as the Director may establish.

15 INTERNATIONAL COOPERATION AND COORDINATION WITH
16 FOREIGN POLICY

17 SEC. 13. (a) The Foundation is hereby authorized to
18 cooperate in any international scientific research activities
19 consistent with the purposes of this Act and to expend for
20 such international scientific research activities such sums
21 within the limit of appropriated funds as the Foundation may
22 deem desirable. The Director, with the approval of the
23 Executive Committee, may defray the expenses of repre-
24 sentatives of Government agencies and other organizations
25 and of individual scientists to accredited international scien-

1 tific congresses and meetings whenever he deems it necessary
2 in the promotion of the objectives of this Act.

3 (b) (1) The authority to enter into contracts or other
4 arrangements with organizations or individuals in foreign
5 countries and with agencies of foreign countries, as pro-
6 vided in section 11 (c), and the authority to cooperate in
7 international scientific research activities as provided in sub-
8 section (a) of this section, shall be exercised only after
9 consultation with the Secretary of State, to the end that
10 such authority shall be exercised in such manner as is con-
11 sistent with the foreign policy objectives of the United
12 States.

13 (2) If, in the exercise of the authority referred to in
14 paragraph (1) of this subsection, negotiation with foreign
15 countries or agencies thereof becomes necessary, such nego-
16 tiation shall be carried on by the Secretary of State in
17 consultation with the Director.

18 MISCELLANEOUS PROVISIONS

19 SEC. 14. (a) The Director shall, in accordance with
20 such policies as the Executive Committee shall from time
21 to time prescribe, appoint and fix the compensation of such
22 personnel as may be necessary to carry out the provisions
23 of this Act. Such appointments shall be made and such
24 compensation shall be fixed in accordance with the pro-
25 visions of the civil-service laws and regulations and the

1 Classification Act of 1923, as amended: *Provided*, That
2 the Director may, in accordance with such policies as
3 the Executive Committee shall from time to time prescribe,
4 employ such technical and professional personnel and fix
5 their compensation, without regard to such laws, as he may
6 deem necessary for the discharge of the responsibilities of
7 the Foundation under this Act. The Deputy Director
8 hereinafter provided for, and the members of the divisional
9 committees and special commissions, shall be appointed with-
10 out regard to the civil-service laws or regulations. Neither
11 the Director nor the Deputy Director shall engage in any
12 other business, vocation, or employment than that of serving
13 as such Director or Deputy Director, as the case may be;
14 nor shall the Director or Deputy Director, except with the
15 approval of the Executive Committee, hold any office in, or
16 act in any capacity for, any organization, agency, or institu-
17 tion with which the Foundation makes any contract or other
18 arrangement under this Act.

19 (b) The Director may appoint, with the approval of
20 the Executive Committee, a Deputy Director who shall per-
21 form such functions as the Director, with the approval of
22 the Executive Committee, may prescribe and shall be Acting
23 Director during the absence or disability of the Director or
24 in the event of a vacancy in the Office of the Director.

1 (c) The Foundation shall not, itself, operate any labora-
2 tories or pilot plants.

3 (d) The members of the Board, and the members
4 of each divisional committee, or special commission, shall
5 receive compensation at the rate of \$25 for each day engaged
6 in the business of the Foundation pursuant to authorization
7 of the Foundation, and shall be allowed travel expenses as
8 authorized by section 5 of the Act of August 2, 1946 (5
9 U. S. C. 73b-2).

10 (e) Persons holding other offices in the executive branch
11 of the Federal Government may serve as members of the
12 divisional committees and special commissions, but they shall
13 not receive remuneration for their services as such members
14 during any period for which they receive compensation for
15 their services in such other offices.

16 (f) Service of an individual as a member of the Board,
17 of a divisional committee, or of a special commission shall not
18 be considered as service bringing him within the provisions
19 of section 281, 283, or 284 of title 18 of the United States
20 Code or section 190 of the Revised Statutes (5 U. S. C.
21 sec. 99), unless the act of such individual, which by such
22 section is made unlawful when performed by an individual
23 referred to in such section, is with respect to any particular

1 matter which directly involves the Foundation or in which
2 the Foundation is directly interested.

3 (g) In making contracts or other arrangements for
4 scientific research, the Foundation shall utilize appropria-
5 tions available therefor in such manner as will in its discre-
6 tion best realize the objectives of (1) having the work
7 performed by organizations, agencies, and institutions, or
8 individuals in the United States or foreign countries, includ-
9 ing Government agencies of the United States and of foreign
10 countries, qualified by training and experience to achieve the
11 results desired, (2) strengthening the research staff of organ-
12 izations, particularly nonprofit organizations, in the States,
13 Territories, possessions, and the District of Columbia, (3)
14 aiding institutions, agencies, or organizations which, if aided,
15 will advance basic research, and (4) encouraging independ-
16 ent basic research by individuals.

17 (h) The activities of the Foundation shall be con-
18 strued as supplementing and not superseding, curtailing, or
19 limiting any of the functions or activities of other Govern-
20 ment agencies authorized to engage in scientific research or
21 development.

22 (i) Funds available to any department or agency of
23 the Government for scientific or technical research, or the
24 provision of facilities therefor, shall be available for transfer,
25 with the approval of the head of the department or agency

1 involved, in whole or in part, to the Foundation for such use
2 as is consistent with the purposes for which such funds were
3 provided, and funds so transferred shall be expendable by
4 the Foundation for the purposes for which the transfer was
5 made, and, until such time as an appropriation is made avail-
6 able directly to the Foundation, for general administrative
7 expenses of the Foundation without regard to limitations
8 otherwise applicable to such funds.

9 (j) The National Roster of Scientific and Specialized
10 Personnel shall be transferred from the United States Em-
11 ployment Service to the Foundation, together with such rec-
12 ords and property as have been utilized or are available for
13 use in the administration of such roster as may be deter-
14 mined by the Director of the Bureau of the Budget. The
15 transfer provided for in this subsection shall take effect at
16 such time or times as the Director of the Bureau of the
17 Budget shall direct.

18 (k) The Foundation shall not support any research or
19 development activity in the field of atomic energy, nor shall
20 it exercise any authority pursuant to section 11 (e) in
21 respect to that field, without first having obtained the con-
22 currence of the Atomic Energy Commission that such activ-
23 ity will not adversely affect the common defense and secu-
24 rity. Nothing in this Act shall supersede or modify any
25 provision of the Atomic Energy Act of 1946.

1 (1) The Executive Committee, after consultation with
2 the Secretary of Defense, shall establish regulations and
3 procedures for the security classification of information or
4 property (having military significance) in connection with
5 scientific research under this Act, and for the proper safe-
6 guarding of any information or property so classified.

7

APPROPRIATIONS

8 SEC. 15. (a) To enable the Foundation to carry out
9 its powers and duties, there is hereby authorized to be
10 appropriated annually to the Foundation, out of any money
11 in the Treasury not otherwise appropriated, such sums as
12 may be necessary to carry out the provisions of this Act.

13 (b) Appropriations made pursuant to the authority pro-
14 vided in subsection (a) of this section shall remain available
15 for obligation, for expenditure, or for obligation and expendi-
16 ture, for such period or periods as may be specified in the
17 Acts making such appropriations.

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

By Mr. PRIEST

MAY 24, 1949

Referred to the Committee on Interstate and Foreign
Commerce

NATIONAL SCIENCE FOUNDATION ACT OF 1949

JUNE 14, 1949.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. CROSSER, from the Committee on Interstate and Foreign Commerce, submitting the following

REPORT

[To accompany H. R. 4846]

The Committee on Interstate and Foreign Commerce, to whom was referred the bill (H. R. 4846) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense, and for other purposes, having considered the same, report favorably thereon with amendments and recommend that the bill as amended do pass.

The amendments are as follows:

Page 3, strike out lines 3 to 5, inclusive, and insert in lieu thereof the following indented paragraph:

(6) to evaluate scientific research programs undertaken by individuals and by public and private research groups, including scientific research programs of agencies of the Federal Government, and to correlate the Foundation's scientific research programs with such programs;

Page 10, line 14, after "10." insert "(a)", and on page 11, after line 9, insert the following subsection:

(b) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this Act shall be used to make payments under any scholarship or fellowship to any individual unless there is on the file with the Foundation an affidavit executed by such individual that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods. The provisions of section 1001 of title 18, United States Code, shall be applicable in respect of such affidavits.

Page 18, strike out lines 17 to 21, inclusive; and in line 22 strike out "(i)" and insert "(h)"; and on page 19, line 9, strike out "(j)" and insert "(i)"; and in line 18 strike out "(k)" and insert "(j)"; and on page 20, line 1, strike out "(l)" and insert "(k)".

PURPOSE OF THE BILL

Stated briefly, the purpose of this bill is to create an independent agency of the Government to be known as the National Science Foundation, and to grant to that agency appropriate authority to be used for the following purposes:

- (1) To develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;
- (2) To initiate and support basic scientific research through contracts or other arrangements, and to appraise the impact of research upon industrial development and upon the general welfare;
- (3) To initiate and support (after consultation with the Secretary of Defense) scientific research in connection with matters relating to the national defense through contracts and other arrangements;
- (4) To grant scholarships and graduate fellowships in the sciences;
- (5) To foster the interchange of scientific information among scientists in the United States and foreign countries;
- (6) To correlate its research programs with other scientific research programs of individuals and public (including Federal governmental) and private groups, as well as to evaluate such other programs.

A detailed explanation of the provisions of the bill, as amended by the committee, appears below under a separate heading.

GENERAL STATEMENT

The committee is of the opinion that legislation of this character is essential to the preservation and fostering of the national health, security, and prosperity, and to the full development of our scientific resources.

Lessons learned during the war period point clearly to the need for an appropriately constituted agency of the Government, to function in time of peace or war, to promote and foster fundamental research in the sciences which is not likely to be carried on privately because of the size and difficulty of the problems and because of lack of immediate promise of commercial value.

The committee is deeply impressed by the fact that while the United States has been for many years and still is eminent in the fields of applied research and engineering development, it does not occupy a comparable prominent position in the field of fundamental or pure research. Dr. Vannevar Bush, the wartime head of the Office of Scientific Research and Development, in his final report entitled "Science: The Endless Frontier" states as follows:

Our national preeminence in the fields of applied research and technology should not blind us to the truth that, with respect to pure research—the discovery of fundamental new knowledge and basic scientific principles—America has occupied a secondary place. Our spectacular development of the automobile, the airplane, and radio obscures the fact that they were all based on fundamental discoveries made in nineteenth-century Europe. From Europe also came formulation of most of the laws governing the transformation of energy, the physical and chemical structure of matter, the behavior of electricity, light, and magnetism. In recent years the United States has made progress in the field of pure science, but an examination of the relevant statistics suggests that our efforts in the field of applied science have increased much faster so that the proportion of pure to applied research continues to decrease.

Several reasons make it imperative to increase pure research at this stage in our history. First, the intellectual banks of continental Europe, from which we

formerly borrowed, have become bankrupt through the ravages of war. No longer can we count upon those sources for fundamental science. Second, in this modern age, more than ever before, pure research is the pacemaker of technological progress. In the nineteenth century, Yankee mechanical ingenuity, building upon the basic discoveries of European science, could greatly advance the technical arts. Today the situation is different. Future progress will be most striking in those highly complex fields—electronics, aerodynamics, chemistry—which are based directly upon the foundation of modern science. In the next generation, technological advance and basic scientific discovery will be inseparable; a nation which borrows its basic knowledge will be hopelessly handicapped in the race for innovation. The other world powers, we know, intend to foster scientific research in the future.

The field of pure or basic research has traditionally been left to institutions of higher learning. Private sources of support for these institutions have not kept step with the increased need for basic research.

SCHOLARSHIPS AND FELLOWSHIPS

Testimony before the committee has further demonstrated the existence of a severe shortage of trained scientists, resulting from the fact that only a handful of young men and women were able to continue their scientific training during World War II. This shortage of skilled scientists is apparent in universities, endowed research foundations, Government laboratories, and in industry. Moreover, industry is competing heavily for these scientists who are tempted more and more to shift from pure research to applied and commercial research.

The committee has made a particularly careful study of the question of continuing need for increasing the Nation's supply of trained scientists.

Testimony received by the committee in the course of its recent hearings reveals that in the period just before the First World War about 250 doctorates in the sciences were turned out annually by American universities. By the end of the next decade, this had jumped to an annual total of about 500 doctorates. By 1931, about 1,000 doctorates in the sciences were turned out annually. This had increased so that in 1941 over 2,000 doctorates were granted. It will be noted, therefore, that from the first decade of the present century, the number of persons trained to the doctorate level in the sciences approximately doubled every 10 years.

It is most important, however, that since 1941 there has been a sharp and steady decline in the number of doctorates in the sciences trained by American universities. In the years 1945 and 1946, less than 1,000 persons were trained to this level annually, or a drop of more than 50 percent from the 1941 total. There was an increase in 1947 to approximately 1,500, and in 1948 the total number of persons trained to the doctorate was approximately 1,700. Yet it will be noted that we have not recovered as of this date the rate of training of American universities in 1941. Furthermore, a recent census of American universities carried out by the Office of Scientific Personnel indicates no prospect for some time to come of a substantial increase in the rate of training of persons to the doctorate level beyond the number of 2,000 who received their degrees in 1941.

According to the same statistics, there are about 8,500 graduate students who would be qualified to achieve a doctorate in the 5-year period beginning in 1948. There appear to be two main barriers

which reduce the number of persons who go on to the level of training indicated by their abilities. The first of these is the transition from high school to college. The second is from college to graduate school. In the first case, there is evidence to indicate that there are substantial numbers of persons of high ability who do not have the opportunity to go on to college. It appears to be true that about one-third of the persons who are highly qualified from the point of academic aptitude do not finish college due in large measure to inadequate financial means.

In the transition from college to graduate school there is evidence of a loss of competent personnel due to inadequate financial means. The above-mentioned census indicated that about 25 percent of those who were clearly competent to carry on successful graduate training could not do so for lack of funds. The total number of persons involved in this category is not large. A relatively small expenditure of Federal funds affording fellowships to such individuals would undoubtedly return rich dividends.

HISTORY OF BILL

The committee's views as to the need for this legislation are substantiated by the testimony of over 150 witnesses heard in committees of the two Houses of Congress during the Seventy-ninth, Eightieth, and Eighty-first Congresses. The testimony of these witnesses, most of them outstanding scientists, educators, public officials, and representatives of labor, industry, and the clergy, was virtually unanimous as to the need for legislation of this character. The committee has received a large number of communications from departments and agencies of the Government, and from private agencies and organizations, with respect to this proposed legislation. As in the case of the oral testimony before the committee, these communications are virtually unanimous as to the need for legislation of this character.

The Congress has long been aware of the need for legislation on this subject. The history of the Science Foundation legislation begins in November 1941 when President Roosevelt wrote a letter to Dr. Vannevar Bush, Director of the wartime Office of Scientific Research and Development, asking him to prepare for him a report on a postwar science program.

President Roosevelt had passed away when Dr. Bush submitted his report in July 1945. His report was entitled "Science, the Endless Frontier." It became the basis for the Science Foundation legislation which is being considered today.

Shortly after the submission of the report and essentially based on its recommendations, identical Science Foundation bills were introduced in the Seventy-ninth Congress by Senator Magnuson and Representative Mills. Other measures were introduced by Senators Kilgore and Fulbright.

When, in September of 1945, President Truman called Congress into special session to enact a 21-point postwar domestic program, one of the points urged the establishment of a single Federal research agency. Following the President's request, hearings were begun in the Senate on the various Science Foundation bills which continued through October of 1945.

Several points were in dispute. Among them were the type of organization of the Foundation and what kind of patent provisions should be included in the bill.

In the following year, the Senate committee reported out S. 1850, which would have made extensive changes in the patent laws of the United States with respect to inventions made with the financial support of the Federal Government. The bill also would have placed considerable control in the President of the United States.

This committee, late in 1946, held hearings on H. R. 6448, introduced by Representative Mills. This bill was a revised version of his original Science Foundation bill.

In July 1946 the Senate passed S. 1850 by a vote of 48 to 18. The House took no action and all bills died with the close of the Seventy-ninth Congress.

During the Eightieth Congress S. 526 was sponsored by a bipartisan group of six Senators and the House had also before it a number of Science Foundation bills. The Senate bill was passed by the Senate in May by a vote of 79 to 8.

In the House this committee held extensive hearings and, as a result of the hearings, H. R. 4102 was introduced, reported favorably by the committee, and passed by the House, its text being substituted for that of S. 526.

S. 526 then went to conference and both Houses approved the conference report. The bill died by pocket veto. President Truman stated in a memorandum of August 6, 1948, that he had vetoed the bill with great reluctance for he was convinced of the urgent need for the establishment of a National Science Foundation, but he felt that the bill passed by Congress vested the determination of vital national policies and the expenditure of large public funds in a group of individuals who would be essentially private citizens. This, the President stated, was a marked departure from the sound principles for the administration of public affairs to which he could not give his approval.

In 1948, during the second session of the Eightieth Congress, new bills were introduced both in the Senate and in the House—S. 2385 and H. R. 6007. These bills were identical and constituted a compromise worked out following conferences between some Members of Congress and presidential advisers. In May 1948 the Senate passed the new measure by a voice vote. In the House this committee held brief hearings and reported favorably H. R. 6007, which differed in a few respects from S. 2385, passed earlier by the Senate. The bill failed to reach the House floor and, therefore, the Science Foundation legislation did not materialize during the Eightieth Congress.

In the Eighty-first Congress, in the Senate, there was introduced S. 247 which is identical with S. 2385, the last Science Foundation bill passed by the Senate during the second session of the Eightieth Congress. This bill passed the Senate without amendment and in the House was referred to this committee. In the House seven bills were introduced which fall into three categories. Four of these bills were identical with H. R. 6007, reported favorably by this committee during the Eightieth Congress, which differ in some respects from S. 247. These bills are H. R. 12, H. R. 185, H. R. 311, and H. R. 2751.

The second category consists of H. R. 1845 and H. R. 2308 which are in all respects identical with S. 247.

The third category consists of a single bill, H. R. 359, which differs substantially from the bills in the first two categories with respect to the organization of the Foundation and patent provisions.

Although the 4-year history of proposed legislation on this subject encompasses over 1,200 pages of testimony by 150 of the Nation's leading authorities in science, education, and medicine, the committee further reviewed the legislation in public hearing, on March 31 and April 1, 4, 5, and 26, 1949. In the light of this additional information the committee has rewritten the Science Foundation bill that it reported favorably during the Eightieth Congress, primarily to clarify the bill still further. As a result, a new bill, H. R. 4846, has been introduced by Mr. Priest, whose subcommittee on Public Health, Science, and Commerce held hearings on this subject. The committee believes that H. R. 4846, as amended, is a better bill with respect to form, as well as content, than any bill on the subject heretofore proposed, and that it meets the objections expressed by the President in his memorandum of August 6, 1948, with respect to S. 526.

COSTS OF FOUNDATION

The committee has given careful consideration to the question of the prospective costs involved in operating a Science Foundation program, and has made inquiry of the Bureau of the Budget as to the best estimates possible that the Bureau might be able to secure of such costs. The Bureau, by letter dated May 24, 1949, addressed to Mr. Priest, has submitted its reply which is set forth in full below.

The Bureau of the Budget's letter points out that the 1950 budget carried an estimate for the Foundation of \$2,500,000 of appropriation and \$12,500,000 of contract authority. The Bureau points out that these figures do not presume to represent an adequate amount to support what is considered a full-fledged program. The estimate is intended merely to enable the Foundation to establish its organization and initiate its program, and the President's budget message so states.

The Bureau estimates that, subject to revision of the Nation's research needs as determined by the Foundation, the Foundation's program for research and training in addition to what now is being done by other agencies would begin with \$15,000,000 in 1950, rise perhaps to \$25,000,000 in 1952, and possibly level off at that point for 1953 and 1954.

The Bureau of the Budget points out that it may become desirable, during this period, to transfer certain research and fellowship programs now financed through other Government agencies, in whole or in part, to the Foundation. In this event, the funds required by the Foundation would be increased accordingly and the funds to finance these transferred activities would be in addition to the basic estimates for the Foundation given above. However, that would not represent a net increase in the total research budget of the Government because of offsetting reductions in other agencies. In the afore-mentioned amounts of \$15,000,000 in 1950 and \$25,000,000 in 1952, 1953, and

1954 are included approximately \$2,000,000 and \$5,000,000, respectively, for scholarships and fellowships. The Bureau points out that the Federal Government is already supporting a graduate fellowship program in the sciences through other agencies and that this program aggregates several million dollars. The estimated cost of the Foundation's long-term program for scholarships and fellowships cannot readily be projected, therefore, until the role of the Federal Government in aiding individuals to continue advanced education has been determined.

(The Bureau of the Budget's letter is as follows:)

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington 25, D. C., May 24, 1949.

HON. J. PERCY PRIEST,
*Chairman, Subcommittee on Public Health, Science, and Commerce,
Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.*

MY DEAR MR. PRIEST: This letter is in reply to your request, made through Mr. Borchardt of your staff, for the views of the Bureau of the Budget with respect to the probable level of appropriations which might be required by the proposed National Science Foundation for the first 5 years of its existence. I feel sure that you appreciate how difficult it is to answer this inquiry, since the level of the Foundation's program can be accurately determined only after the Foundation itself has had an adequate opportunity to survey the problem.

As you know, the 1950 budget carried an estimate for the National Science Foundation in the expectation that the Foundation would be established at the present session of the Congress. That estimate, \$2,500,000 of appropriation and \$12,500,000 of contract authority, does not presume to represent an adequate amount to support what is considered a full-fledged program. As the President's budget message states, the estimate is intended merely to enable the Foundation to establish its organization and initiate its program. It assumes that most of the first year would be devoted to studies and surveys of the Nation's research needs and the best means of meeting those needs, but a provision for contract authority has been made in order to permit the Foundation to initiate some operations on a limited scale in the event that it is found desirable to do so.

Subject to revision as the Foundation determines the Nation's research needs and develops a program to meet them, it is my present opinion that the budget of the Foundation for research and training in addition to that now being done by other agencies would increase from \$15,000,000 in 1950 to perhaps \$25,000,000 in 1952 and possibly level off at that point for 1953 and 1954.

In addition, it may become desirable, during this period, to transfer certain research and fellowship programs now financed through other Government agencies in whole or in part to the Foundation. In this event the funds required by the Foundation would be increased accordingly. The funds to finance these transferred activities would be in addition to the basic estimates for the Foundation given above, but would not represent a net increase in the total budget of the Government because of the offsetting reductions in other agencies.

It is particularly difficult to estimate the amount within the Foundation's budget to be devoted to scholarships and fellowships until such time as the Foundation has made a careful analysis of the needs which now confront us. However, in the above-mentioned basic estimates approximately \$2,000,000, increasing to \$5,000,000, has been included for this purpose. In this connection, it may be said that the Federal Government is already supporting a graduate fellowship program in the sciences through other agencies aggregating several million dollars. The estimated cost of the Foundation's long-term program for scholarships and fellowships cannot readily be projected until the role of the Federal Government in aiding individuals to continue advanced education has been determined.

I trust that these judgments, which are necessarily speculative, will serve your immediate purposes in considering this necessary and important legislation.

Sincerely yours,

FRANK PACE, Jr., *Director.*

CERTAIN PROVISIONS OF THE BILL

While a detailed explanation of the bill is set forth below, it appears desirable to call particular attention to certain differences between H. R. 4846 and the Science Foundation bill, which was reported favorably by this committee during the Eightieth Congress.

1. For purposes of clarification, section 2 sets forth that the Foundation shall consist of a National Science Board and a Director. In last year's bill the word "Foundation" was used both to describe the entire Foundation as an agency and that portion of the Foundation which consists of the 24-member group. In H. R. 4846 the latter group is designated as the National Science Board. Appropriate changes have been made throughout the bill substituting "Board" for "Foundation" wherever reference is made to the 24-member group that directs the policies of the Foundation.

2. Section 3 (a) (7) of H. R. 4846 authorizes the Foundation to establish such special commissions as the Board may, from time to time, deem necessary for the purposes of the act. In last year's bill special reference was made to commissions on cancer, on heart and cardio-vascular diseases, and on poliomyelitis and other degenerative diseases. It was felt that this reference to specially named commissions should be omitted and the Foundation be given discretion in which fields to establish such special commissions.

3. In section 3 (c) specific information in the Foundation's annual report is called for on the acquisition and disposition by the Foundation of any patents and patent rights. This provision was inserted in order to give the Congress and the public information with respect to any dealings of the Foundation in patents.

4. In section 10, which authorizes the Foundation to award scholarships and graduate fellowships, there has been inserted the phrase "within the limits of funds made available specifically for such purpose pursuant to section 15." The latter section authorizes the appropriation of funds to the Foundation to carry out its powers and duties. It is the purpose of the new clause to make sure that the funds available to the Foundation for scholarship and graduate fellowship purposes are separated from other funds available to the Foundation.

5. In section 11, which defines the Foundation's authority, the limiting phrase "within the limits of available appropriations" has been inserted for the purpose of clarification.

6. Section 11 (e) authorizes the Foundation to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by this act. In the present bill the words "necessary for, or resulting from, the exercise of authority granted by this Act" have been substituted for the words "necessary for, or resulting from, scientific research" in order to circumscribe more closely the authority of the Foundation.

7. The proviso in section 12 (a) that nothing in this act shall be construed to authorize the Foundation to enter into any contractual or other arrangement "inconsistent with" any provision of law affecting the issuance or use of patents, has been substituted for a similar provision contained in last year's bill which provided that the Foundation could not by any contractual or other arrangement "alter or

modify" any provisions of law affecting the issuance or use of patents.

8. Section 14 (b) of the bill contains no provision with respect to the salary of the Deputy Director, whose salary will, therefore, be fixed in accordance with the provisions of the Classification Act of 1923. Last year's bill provided compensation for the Deputy Director at a rate not to exceed \$12,000 per annum. This change was made at the recommendation of the Bureau of the Budget.

9. In sections 11 (h) and 14 (d), in lieu of fixed amounts for travel expenses and subsistence, reference has been made to section 5 of the act of August 2, 1946. This change will automatically make applicable to Foundation personnel any changes that might be made in the afore-mentioned act which deals with travel and subsistence payments generally.

Other changes involve primarily a rearrangement of the sections of the bill in order to present them in a more logical order.

CONCLUSION

The committee urgently recommends the prompt enactment of this legislation. Four years have passed since the activities of the Office of Scientific Research and Development, the proposed Foundation's wartime predecessor, were terminated. The need to establish a National Science Foundation is today more urgent than ever. No nation can long maintain its leadership without constantly renourishing its fund of basic scientific knowledge and its supply of scientifically trained manpower. The Nation's preeminence in applied science remains unquestioned, but we have seriously drained our storehouse of basic knowledge. Our national health, prosperity, and welfare, and, indeed, our national defense are dependent on pushing forward the frontiers of basic science.

It is the sincere belief of this committee that few pieces of legislation have received more careful study and scrutiny than has been the case with respect to the Science Foundation bill. The need for this legislation has not been seriously questioned in these 4 years of study and scrutiny. The contents and form of the legislation, however, has been substantially improved.

EXPLANATION OF THE AMENDED BILL BY SECTIONS

Section 1. *Short title.*—This section provides that the act may be cited as the "National Science Foundation Act of 1949."

Section 2. *Establishment of National Science Foundation.*—This section establishes the National Science Foundation in the executive branch as an independent executive agency and it provides that the Foundation shall consist of a National Science Board and a Director.

Section 3. *Functions of the Foundation.*—By paragraph (1) of subsection (a) the Foundation is directed to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences. It is the intent of this clause that the Foundation may, to the extent feasible, encourage governmental and private research agencies and educational institutions to adopt and follow programs which will not conflict with each other and which

will lie in the most fruitful fields. The Foundation will have no authority to exercise any dictation or control over research or education in the Nation.

By paragraph (2) the Foundation is directed to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences. By paragraph (3) it is directed, after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense. It is to carry out these objectives by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such research.

By paragraph (4) the Foundation is directed to award, as provided in section 10, scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

By paragraph (5) the Foundation is directed to foster the interchange of scientific information among scientists in the United States and foreign countries.

By paragraph (6) the Foundation is directed to evaluate scientific programs undertaken by individuals and by public and private research groups, including programs of Federal agencies, and to correlate its own programs with such programs.

By paragraph (7) the Foundation is directed to establish such special commissions as it may from time to time deem necessary for the purposes of the act.

By paragraph (8) the Foundation is directed to maintain a register of scientific and technical personnel and in other ways to provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including its Territories and possessions.

Subsection (b) of this section declares that in the exercise of the authority and the discharge of the functions referred to in subsection (a) it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

Subsection (c) provides for an annual report of the Foundation to be made to the President for submission to the Congress. Such report is to summarize the activities of the Foundation, make such recommendations as the Foundation deems appropriate, and include the report of the executive committee to the Foundation and information as to the acquisition and disposition by the Foundation of patents and patent rights.

Section 4. *National Science oBard.*—By subsection (a) it is provided that the Board shall consist of 24 members, appointed by the President by and with the advice and consent of the Senate, and of the Director ex officio. Certain qualifications are established with respect to appointments, namely, that the members must be persons eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs, selected solely on the basis of established records of distinguished service. Moreover, appointments are to be made in such a way that scientific opinion in all areas of the Nation is fairly represented. Subsection (a) further provides that in making

nominations for appointment as members, the President is requested to give due consideration to any recommendations for nomination which may be submitted to him by scientific and educational organizations.

Subsection (b) provides that the term of office of each member shall be 6 years. The terms of office of the various members are to be staggered so that after the initial establishment of the Board, one-third of the members shall be appointed every 2 years. This arrangement will aid in assuring continuity of policy and program, while at the same time permitting the constant influx of men and women with fresh initiative and imagination who will be abreast of the latest developments in the various fields of science, public affairs, and education. It is provided that any person who has been a member for 12 consecutive years shall be ineligible for appointment during the 2-year period following the expiration of such twelfth year.

Subsection (c) provides that the President shall call the first meeting of the Board, at which the first order of business shall be the election of a Chairman and a Vice Chairman.

Subsection (d) provides that the Board shall meet annually on the first Monday in December and on call of the Chairman; and he shall call a meeting on written request of one-third of the members. It provides that a majority of the voting members shall constitute a quorum, and also contains provisions regarding the giving of notice of meetings.

Subsection (e) relates to the election and terms of office of the Chairman and Vice Chairman of the Foundation.

Section 5. *Director of Foundation*.—This section, in subsection (a), provides for a Director of the Foundation to be appointed by the President by and with the advice and consent of the Senate, after receiving recommendations from the Foundation. The Director is to serve as a nonvoting ex officio member of the Board and as the nonvoting chairman of the executive committee; and, in addition, he is to be the chief executive officer of the Foundation. The Director is to receive compensation at the rate of \$15,000 per annum and is to serve for a term of 6 years unless sooner removed by the President.

By subsection (b) of this section it is provided that in addition to the powers and duties specifically vested in him by the act, the Director shall, in accordance with the policies established by the Board, exercise the powers granted by sections 10 and 11, together with such other powers and duties as the Board may delegate to him; and it is provided that the authority granted by sections 10 and 11 (c) shall be exercised by the Director only with the approval of the Board.

Section 6. *Executive committee*.—Subsection (a) of this section creates an executive committee of the Board, to consist of the Director ex officio and nine other members elected from among the members of the Board. Provisions are included as to terms of office and limiting eligibility for continuous service. The members are to be chosen so as to represent diverse interests and all areas of the Nation, so far as practicable.

Subsection (b) provides that in addition to the powers and duties specifically vested in it by this act, the executive committee shall exercise such powers and duties as may be delegated to it by the Board.

Subsections (c) and (d) provide that the executive committee shall meet at the call of the Chairman or at such times as may be fixed by itself, but not less than six times a year; and that a majority of the voting members shall constitute a quorum.

Subsection (e) provides for an annual report (and such other reports as may be deemed necessary) by the executive committee to the Board. Such reports are to summarize the committee's activities, to make recommendations, and to set forth the recommendations of divisional committees and special commissions. Minority views and recommendations, if any, of members of the executive committee, the divisional committees, and special commissions are to be included.

Section 7. *Divisions within the Foundation.*—Subsection (a) of this section provides that, until otherwise provided by the Board, there shall be within the Foundation a Division of Medical Research; a Division of Mathematical, Physical, and Engineering Sciences; a Division of Biological Sciences; and a Division of Scientific Personnel and Education. Subsection (b) provides that there shall also be within the Foundation such other divisions as the Board may from time to time deem it necessary to establish.

Section 8. *Divisional committees.*—Subsection (a) of this section provides that there shall be a committee for each of the divisions which are created by or pursuant to section 7.

Subsection (b) provides that each divisional committee shall be appointed by the executive committee and shall consist of not less than five persons who may be members or nonmembers of the Board.

Subsections (c) and (d) relate to the terms of members of divisional committees, to the election of the chairmen of such committees, to rules of procedure, and to the duty to make recommendations to, and to advise and consult with, the executive committee and the Director.

Section 9. *Special commissions.*—As previously pointed out the Foundation is authorized and directed under paragraph (7) of section 3 (a) to establish special commissions for certain purposes. This section provides that each such commission shall consist of 11 members appointed by the executive committee, 6 of whom shall be eminent scientists and 5 of whom shall be persons other than scientists. Each such commission is to make a comprehensive survey of public and private research being carried on in its field, and to recommend to the executive committee at the earliest practicable time an over-all research program in its field.

Section 10. *Scholarships and graduate fellowships.*—Subsection (a) of this section authorizes the Foundation to award, within the limits of funds made available specifically for such purpose pursuant to section 15, scholarships and graduate fellowships for scientific study or scientific work in the sciences at accredited nonprofit American or foreign institutions of higher education, selected by the recipient. Selections are to be made from among citizens of the United States, solely on the basis of ability. In choosing between applicants of equal ability, scholarships and fellowships are to be awarded in such manner as will tend to result in wide geographical distribution. Under subsection (b), added by a committee amendment, an individual may not receive payments under a scholarship or fellowship unless he has executed an affidavit that he does not believe in, and is not a member of, and does not support any organization that believes in or teaches

the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods. The criminal penalties of title 18, United States Code, section 1001, are made applicable with respect to such affidavits.

Section 11. *General authority of Foundation.*—This section empowers the Foundation, within the limits of available appropriations, to do all things necessary to carry out the provisions of the alt. In addition, it contains certain specific authority, and provides exemptions from certain presently existing legal restrictions.

Paragraph (c) of this section authorizes contracts or other arrangements and amendments thereto without legal consideration, without performance or other bonds, and without regard to the provision of law requiring advertising for bids (3709 Rev. Stat.: 41 U. S. C., sec. 5). The Foundation will be supporting basic research in matters so new that their scope and the results of such research cannot be anticipated. The Foundation therefore cannot reasonably require its contractors to produce any particular specified results. Consequently, performance bonds and proposals of contractors submitted in response to advertisements would have no meaning. Similarly, under this provision, legal questions of failure of consideration or of lack of full legal consideration for amendments, increases of available funds, etc., will not arise to hamper the Foundation's operations or to cause hardship to grantees of fellowships, or to educational or other institutions.

Since a large part of the research sponsored by the Foundation will inevitably be done by academic institutions, and since such institutions, by and large, lack freely available working capital, subsection (d) of the bill provides that the Foundation may make advance and progress payments to finance their research.

Existing regulations for itemization and substantiation of vouchers claiming payment from the Government are generally difficult to apply to research expenditures, particularly with respect to research done by academic institutions. Ordinarily the quantities of materials used from day to day in a given project will be so small that a requirement that the claim for reimbursement for the cost of each item must be separately itemized and substantiated by a certified paid invoice would be disproportionately costly. Moreover, accounting systems in use by academic institutions are usually substantially different from those commonly used by industrial organizations. For these reasons, it is provided by subsection (i) that, with the approval of the Comptroller General, the Foundation may prescribe its own regulations with respect to controls over expenditures so as to fit the special circumstances of its activities and the administrative procedures of its contractors and grantees.

Subsection (e) authorizes the Foundation to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds, necessary for, or resulting from, the exercise of authority granted by this act.

Subsection (f) enables the Foundation to receive and use any funds which may be donated to it by anyone for the general purposes of the Foundation, provided that no other restrictions are attached to such donation.

✓ Under the provisions of section 87 of the act of January 12, 1895, as amended by section 11 of the act of March 1, 1919 (44 U. S. C. 111), ✓

it is required that all printing and binding for the Government shall be done at the Government Printing Office, except in certain cases with the permission of the Joint Committee on Printing. The pressure of business on the Government Printing Office is such that it sometimes cannot render prompt service. Moreover, it does not have facilities for securing the specialized distribution of its output which would be necessary in connection with the Foundation's duty to promote the interchange of scientific information as provided in section 3 (a) (5). The Foundation is, therefore, authorized in subsection (g) of section 11 to publish or arrange for the publication of scientific and technical information without regard to the provisions of the acts above cited. In this way medical information for example, can be placed in existing channels reaching medical men with assurance that it will be given adequate but not wasteful circulation.

Subsection (h) provides that the Foundation may utilize the services of voluntary and uncompensated personnel. This provision permits the payment of the travel and subsistence expenses of such personnel.

Section 12. *Patent rights.*—By subsection (a) it is provided that each contract or other arrangement, executed pursuant to the act, which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed. This provision allows the Foundation, in making its contractual or other arrangements for research and scholarships, to take into consideration the necessities and the equities of each project as it arises.

Subsection (a) provides further that nothing contained in this act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

Members of the Foundation and other officers and employees of the Foundation, however, are considered to be in a fiduciary capacity with respect to information acquired in the course of their activities for the Foundation. They should, therefore, not be permitted to derive personal benefits from inventions made by them but which could not have been made except for their official positions with the Foundation. Accordingly, subsection (b) of this section so provides.

Section 13. *International cooperation and coordination with foreign policy.*—By subsection (a) the Foundation is authorized to cooperate in international scientific research and other activities within the purposes and provisions of this act and the Director, with the approval of the executive committee, is authorized to defray the expenses of representatives of private as well as Government research organizations, and of individual scientists, in attending international congresses and meetings and to cooperate with respect to such congresses and meetings. This provision will assist the Foundation in performing its duty to foster the interchange of scientific information among scientists as provided in section 3 (a) (5).

Subsection (b) (1) provides that the authority to enter into contracts or other arrangements under the act, in foreign countries and with agencies of foreign countries, and the authority to cooperate in

international scientific research activities, shall be exercised only after consultation with the Secretary of State, to the end that such authority will be exercised in a manner consistent with the foreign policy of the United States.

Subsection (b) (2) provides that negotiations with foreign countries or agencies, in the exercise of the authority referred to in paragraph (1) of this subsection, shall be carried on by the Secretary of State in consultation with the Director.

Section 14. *Miscellaneous provisions.* Subsection (a) of this section authorizes the Director, in accordance with such policies as the executive committee shall from time to time prescribe, to appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of the act. Technical and professional personnel may be employed without regard to the civil-service laws and the Classification Act of 1923 when deemed desirable by the Director, acting under policies laid down by the executive committee. It is provided that the Deputy Director and members of divisional committees and advisory committees shall be appointed without regard to the civil-service laws. It is provided that neither the Director nor the Deputy Director shall engage in any other business, vocation or employment; and that neither such officer shall, except with the approval of the executive committee, hold any office in, or act in any capacity for, any organization, agency or institution with which the Foundation makes any contract or other arrangement.

Subsection (b) authorizes the Director to appoint a Deputy Director, with the approval of the executive committee.

Subsection (c) provides that the Foundation shall not itself operate any laboratories or pilot plants.

Subsection (d) provides that members of the Board, of the divisional committees, or of special commissions, are to be compensated at the rate of \$25 for each day when engaged in the business of the Foundation; and in addition they will be allowed travel expenses.

Subsection (e) provides that persons holding office in the executive branch of the Government may serve in certain capacities under the act, but such persons are not to be compensated for such service.

Subsection (f) provides that persons serving as members of the Board, the divisional or advisory committees, or special commissions, shall not be considered, by reason of such service, to be within the terms of certain criminal statutes except with respect to acts by them which relate to particular matters directly involving the Foundation or in which the Foundation is interested. The statutes in question are section 281, 283, or 284 of title 18 of the United States Code and section 190 of the Revised Statutes (5 U. S. C. sec. 99). Many of the ablest men and women in the various scientific and educational fields and in public affairs are associated with the leading institutions in their fields which naturally will be performing research for the Foundation. The entire structure of the Foundation as proposed by this bill rests on securing the services of such persons on a part-time basis.

The statutes above referred to are so broadly worded in prohibiting certain private activity in relation to matters in which the Government has an interest, that without such waiver many such persons, in order

to serve under this act, would either have to give up the occupations which furnish their livelihood or be in technical violation of one or more of these statutes.

Subsection (g) provides that in making contracts or arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals, including Government agencies, qualified to achieve the results desired, (2) strengthening the research staffs of organizations, particularly nonprofit organizations, in the States and Territories and the District of Columbia, (3) aiding institutions, agencies, and organizations which, if aided, will advance basic research, and (4) encouraging independent research by individuals.

Subsection (h) authorizes Government agencies having funds for scientific or technical research, or for the provision of facilities therefor, to transfer such funds to the Foundation for such use as is consistent with the purposes for which the funds were provided; and funds so transferred are to be expendable by the Foundation for the purposes for which the transfer was made, and, until funds are made directly available to the Foundation, for general administrative expenses of the Foundation.

Subsection (i) provides for transfer, from the United States Employment Service to the Foundation, of the National Roster of Scientific and Specialized Personnel (together with records and property), such transfer to take effect at such time as the Director of the Bureau of the Budget shall direct.

Subsection (j) provides that the Foundation shall not support any research or development activity in the field of atomic energy, or exercise any authority under section 11 (e) in respect to that field, without first obtaining the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. It is also provided that nothing in the act shall supersede or modify any provision of the Atomic Energy Act of 1946.

Subsection (k) provides that the executive committee, after consultation with the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under the act, and for the proper safeguarding of any information or property so classified.

Section 15. *Appropriations.*—This section authorizes such appropriations as may be necessary for the Foundation; and any moneys so appropriated are to remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the Acts making such appropriations. This provision is desirable in view of the long-range nature of many of the projects which will be undertaken by the Foundation.

The reports of the Government departments and agencies on the several National Science Foundation bills referred to this committee, are as follows:

THE SECRETARY OF COMMERCE,
Washington, D. C., March 31, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR MR. CHAIRMAN: This letter is in reply to your recent communications requesting the Department's opinion concerning H. R. 12, 185, 311, 1845, 2308, and 2751, bills to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, and H. R. 359, a bill to promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, and for other purposes.

Since the termination of hostilities, the President and the Congress have been aware of the need for the establishment of a National Science Foundation. A bill to establish a foundation, S. 1850, was introduced into the Seventy-ninth Congress and, after extensive hearings were held, passed the Senate in July of 1946. This bill failed of enactment with the adjournment of the Seventy-ninth Congress.

Numerous bills to obtain this objective were introduced into the first session of the Eightieth Congress. S. 525, a bill similar to S. 1850 of the Seventy-ninth Congress, and S. 526, which provided for a different organizational make-up,¹ were considered by the Senate Committee on Labor and Public Welfare, and S. 526 was reported to the Senate and ultimately passed the Congress. That bill was not approved by the President, and he transmitted to the Congress on August 6, 1947, a memorandum outlining his reasons for withholding approval.

A bill, H. R. 6007, and an identical bill, S. 2385, were then introduced into the second session of the Eightieth Congress. These bills were drafted in an effort to satisfy the President's objection to S. 526 and to secure the best possible legislation on this subject. S. 2385 passed the Senate by a voice vote in May of 1948, but no action was taken by the House. H. R. 6007, although reported favorably by the House Committee on Interstate and Foreign Commerce, failed of enactment with the adjournment of the Eightieth Congress.

A large number of bills have been introduced in the Eighty-first Congress to establish a National Science Foundation. Bills similar to H. R. 6007 and S. 2385 of the Eightieth Congress which have been introduced to date are H. R. 12, 185, 311, 2308, 1845, 2751, and S. 247. One bill, H. R. 359, is similar to S. 1850 of the Seventy-ninth Congress and S. 525 of the Eightieth Congress.

This Department has the following comments concerning the subject bills:

ORGANIZATION

The determination of what organizational structure should be created to operate a Science Foundation has been a central issue in the consideration of past bills on this subject. The problem has revolved around the issue of the extent to which Government policy should be determined and Government funds expended by persons who will act as Government officials only when attending meetings of the Foundation. S. 526 of the Eightieth Congress was vetoed by the President primarily because it was considered unsound in its organizational structure. This bill vested the authority of the Government in a 24-member Foundation, an executive committee chosen by it, and a Director also named by the Foundation. H. R. 6007 (80th Cong., 2d sess.) provided for the appointment of the Director by the President. This modification of the vetoed proposal was made with a view to meeting the President's objection.

Although H. R. 12, 185, 311, 1845, 2308, and 2751 of the Eighty-first Congress provide for the appointment of the Director by the President, it is the opinion of this Department that administrative efficiency would be better assured if these proposals provided for carrying out congressional policy through the executive branch of the Government in the normal manner. Rather than delegating power to persons who, for all practical purposes, are outside the Government, we feel that it would be more advantageous to provide for the placing of all executive responsibility in the hands of the Director or a full-time nonpartisan commission, with an advisory committee set up for consultation. The one-man Admin-

¹ The principal difference between S. 525 and S. 526 (80th Cong.) related to (1) form of administrative organizations, (2) patent policy, (3) the inclusion of social science, and (4) the distribution of research funds.

istrator, acting upon the advice of a nine-man advisory board, provided for in H. R. 359 would provide the more usual type of administrative organization.

It is not because of a lack of confidence in the integrity or wisdom of the prominent citizens who would be the members of the Foundation that the above objection is voiced. It is rather a belief that the formulation and execution of Government policy is a full-time job and private citizens who are Government officials for only a few days a year cannot have the familiarity with the problems of Government administration, so essential to the effective discharge of Government responsibilities and to the avoidance of conflict with established Government policies.

It is recognized by this Department that this view was presented several times to the Eightieth Congress, and was considered in detail at the time of the hearings on S. 525 and S. 526 in 1947 and when H. R. 6007 was considered in 1948. The Department nevertheless continues to favor this view and urges further consideration of the organizational structure of the Foundation in light of the above recommendations.

The proposed bills represent improvement over S. 526 of the Eightieth Congress which was vetoed by the President. They would provide for a Director, appointed by the President, who would exercise all powers set forth in the proposal, subject to the policies developed by the Foundation, and would supervise the contract-research program and the accompanying expenditure of research funds, with the approval of the Foundation's executive committee. Nevertheless, it is believed that additional steps should be taken if the confusion which we feel would be inherent in such an organizational structure is to be minimized. It is recommended that the bills specifically provide for the appointment of a limited number of Government officials as members of the Foundation. The mutual advantage to be gained from joint participation by Government officials and qualified members of the public in approaching the problems of scientific research have been demonstrated by the National Advisory Committee for Aeronautics which includes representatives of interested Government agencies and outstanding authorities from outside of Government. The presence of Government officials on the Foundation would provide some measure of coordination between the Foundation and the broad programs of the executive branch.

In addition, the appointment of Government officials to the Foundation would do much to promote coordination of the activities of existing Government scientific agencies and the Foundation. In view of the presence of such scientific agencies as the National Bureau of Standards, Weather Bureau, and the Coast and Geodetic Survey within the Department of Commerce, the Department is particularly interested in this problem. The only provision in H. R. 12, for example, which seeks to secure some measure of cooperation among existing Government agencies and the Foundation is section 14 (b) which states:

"The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research and development."

In view of the impossibility of precise description of the exact functions or activities of the Government agencies in such a rapidly changing field as scientific research, it is the Department's opinion that existing agencies must coordinate their work with that of the Foundation to avoid duplication. Such coordination, the Department believes, could be obtained through the Interdepartmental Committee on Scientific Research and Development, which was created by Executive order in 1947. There is some recognition of this principle in these bills, for example, H. R. 12 where the Foundation is directed to consult with the Secretary of Defense concerning national defense research, with the Secretary of State when the Foundation cooperates with foreign countries on international research and in the total exemption of the atomic research field from the scope of the Foundation's activities.

The proposals now before the Congress provide for Divisions of Medical Research; Mathematical, Physical, and Engineering Research; Biological Science; Scientific Personnel and Education; and such others as the Foundation may deem necessary. Only in H. R. 359 is specific provision made for a Division of Social Science. Although the other proposed bills do not exclude from the Foundation's jurisdiction social science research, the specific enumeration of specific fields which are all natural sciences may result in the exclusion of social science by implication. The Department urges that consideration be given to either in-

cluding the social sciences in the bill or making certain that their exclusion will not be accomplished by implication.

FUNCTIONS

The proposed functions of the National Science Foundation appear to be sufficiently broad in scope and appropriate to the task in view. The Foundation is directed to develop and encourage basic research by initiating basic research programs through research contracts, by granting scientific scholarships, by correlating its program with that of other private research groups, and by fostering the interchange of scientific information among scientists. To accomplish these functions the Foundation is granted authority to contract, to make advance payments, to purchase property, to use donated funds, to publish findings, to accept the services of uncompensated personnel, and, among other things, to appoint and fix compensation of personnel. The Foundation is authorized to make appointments of scientific personnel without regard to the civil-service laws and the Classification Act of 1923, if deemed desirable by the Director.

The authority given to the Foundation with respect to personnel, contracting authority, and financial matters is necessarily quite broad and the Foundation is exempted from certain laws which are unduly restrictive for research operations. This has been a general trend as new agencies are created, and while it is here appropriate, it should be noted that there are existing scientific agencies which are also in need of many of the provisions of this proposal. It would be most desirable if legislation could be enacted which would grant existing scientific agencies similar authority.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

It is the opinion of this Department that this provision would be of the utmost importance in promoting American science. It is assumed by this Department that Federal Government employees who are qualified shall be eligible to receive such scholarships. There are a great many employees of the Federal Government engaged in scientific work who should be eligible for such awards.

PATENT POLICY

The patent section of these bills, with the exception of H. R. 359, are similar. The first paragraph is concerned with contracts relating to scientific research and states that each contract "shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is made."

This section is short, simple and free of objections which have been raised against patent provisions in previous Science Foundation bills. Under its provisions the Foundation would have to study all the factors affecting a particular contract and incorporate a patent clause designed for the particular situation. The provision is very flexible and would allow for the accumulation of experience in dealing with different situations. The Commissioner of Patents has no objection to a provision of this type.

The second paragraph relates to inventions made by an officer or employee of the Foundation "in connection with performing his assigned activities and which is directly related to the subject matter thereof." The ownership of any resulting patents will be in the Government or at the disposition of the Government. There is no objection to such a provision which, incidentally, would be of only limited application if the Foundation does not have employees conducting research.

The patent provisions of H. R. 359 are far more extensive in detail and in scope than the other Foundation bills. Without commenting on each specific provision, it is the Department's opinion that the detailed elaboration of H. R. 359 on patent policy would be very likely to result in excessive rigidity and those provisions which would establish patent policy for all Government agencies would seem more appropriately the subject of separate patent legislation.

I am advised by the Bureau of the Budget that they would impose no objection to the submission of this report to the Committee.

Sincerely yours,

CHARLES SAWYER,
Secretary of Commerce.

ATOMIC ENERGY COMMISSION,
Washington 25, D. C., March 3, 1949.

Hon. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.

DEAR CONGRESSMAN CROSSER: This is in reply to a number of recent letters from you requesting the comments of the Atomic Energy Commission on H. R. 12, H. R. 185, H. R. 311, H. R. 1845, H. R. 2308, and H. R. 2751, bills to establish a National Science Foundation. These bills can appropriately be considered as a group; however, H. R. 359 introduced by Mr. Celler raises additional questions, and we will therefore comment on this bill in a subsequent letter.

In commenting on previous legislation on this subject, the Commission has consistently taken the position that it was strongly in favor of the establishment of a science foundation—particularly from the point of view of its formulating a national policy for the promotion of scientific research, coordinating Government support in this field, granting fellowships, and encouraging the interchange of scientific information.

While we have not gone into the details of the administrative structure as provided in the various bills, we have examined the provisions of these bills as they might relate to the operations of the Atomic Energy Commission and we conclude that we would have no objection to their enactment. It is noted that there is a section in each of these bills which provides that "nothing in this section shall supersede or modify any provision of the Atomic Energy Act of 1946." It is further noted that the same section provides for the prior concurrence of the Commission in the case of research and development activities in the field of atomic energy undertaken by the Foundation. Such provision should make it possible to establish a sound coordination of activities of the two agencies in this field.

The Atomic Energy Commission has not been advised by the Bureau of the Budget as to the relationship of these bills to the program of the President.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION.
SUMNER T. PIKE, *Acting Chairman.*

ATOMIC ENERGY COMMISSION,
Washington 25, D. C., March 30, 1949.

Hon. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
Room 1334, House Office Building, Washington, D. C.

DEAR CONGRESSMAN CROSSER: This is in response to your notification of hearings to be held on a number of bills to establish a National Science Foundation.

The Commission has on numerous occasions expressed its support for the establishment of a science foundation, and recently forwarded comments to your committee on bills which are presently scheduled for consideration. We do not, therefore, think it necessary to request further opportunity to express our views on the bills as presently drafted at this time; but we would, of course, be ready to discuss and questions regarding which your committee thinks our views might be of use in its consideration of these bills.

On March 28 a member of your staff, Mr. Borchardt, requested by telephone that we comment on a suggested amendment to the section relating to atomic energy which is contained in almost all of the bills being considered. This section provides:

"The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946."

The proposed amendment would substitute for the words "in the field of atomic energy" the words "involving fissionable material as defined in the Atomic Energy Act of 1946."

We will forward our comments as soon as possible.

Sincerely yours,

CARROLL L. WILSON, *General Manager.*

ATOMIC ENERGY COMMISSION,
Washington 25, D. C., April 1, 1949.

HON. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington 25, D. C.

DEAR CONGRESSMAN CROSSER: This is in further reference to a request of a number of your committee's staff, Mr. Borchardt, for comment of the Atomic Energy Commission on a suggested amendment to the section in the National Science Foundation bills relating to atomic energy. The section as presently drafted provides:

"SEC. 14. (k) The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 10 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946."

The suggested amendment would substitute for the words "in the field of atomic energy," the words, "involving fissionable material as defined in the Atomic Energy Act of 1946."

The section quoted above was first inserted in S. 526 during the first session of the Eightieth Congress. At that time, its terms and meaning were discussed at considerable length on the floor of the Senate. The primary purpose of the section as we understand it is to provide a general framework for the coordination of the work of the Foundation and the Commission and, at the same time, to preserve the basic responsibilities of the Commission for research and development activities in the field of atomic energy. We understand that it was considered more advisable to use general language in the statute with reference to the area of activity requiring Commission concurrence than to attempt to define in advance the specific areas in which there was to be such concurrence.

We concur in the desirability of the general language presently in the bill. At the same time, we have viewed this section primarily as a proposed legislative framework within which more specific working arrangements with the Foundation can be set up. We have not viewed it as a provision which would result in constant referral to the Commission every time the Foundation takes any step in the field of atomic energy. We believe that the areas that require specific concurrence, and those that do not, are not now susceptible of adequate definition in advance, and that they are better left to the two agencies to agree upon, as concrete problems make the distinctions clearer.

For this reason, we consider the suggested amendment limiting the necessity for prior concurrence of the Commission to activity of the Foundation involving fissionable material to be unduly restrictive. In this connection, it should be emphasized that there are certain fields of highly classified atomic energy research which do not involve fissionable material.

Accordingly, we recommend that the section be preserved as presently drafted. We are advised that the Bureau of the Budget would interpose no objections to the views expressed in this letter.

Sincerely yours,

CARLETON SHUGG, *Deputy General Manager.*

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS,
Washington 25, D. C., March 3, 1949.

HON. ROBERT CROSSER, M. C.,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, United States Congress, Washington 25, D. C.

DEAR MR. CROSSER: Receipt is acknowledged of your letters of February 1 enclosing for comment bills H. R. 12, H. R. 185, H. R. 311, and H. R. 1845; your letter of February 2 enclosing for comment bill H. R. 359; and your letter of February 7 enclosing for comment bill H. R. 2308. All of these bills concern the establishment of a National Science Foundation.

These bills were considered by the National Advisory Committee for Aeronautics at its meeting on February 10, 1949. It is the judgment of the NACA that it is timely to establish in the Federal structure such a National Science Foundation as is proposed in these bills.

Sound American business principles recognize the effectiveness of a board of directors guiding the policies and operations of an organization through officers

who are subject to the board. An organization similar to this is proposed in all of the bills except H. R. 359, which would place the whole authority in an administrator with a board which would be merely advisory to him. It is believed that highly qualified men who can best guide the destinies of a National Science Foundation would be reluctant to serve under an administrator who would be free to act without regard to their considered judgment. For this reason, the NACA suggests that the form of organization proposed in H. R. 359 is less desirable than that proposed in the other bills.

Section 5 of H. R. 359 would require geographical apportionment of the funds available for research and development activities. It is the opinion of the NACA that such a limitation would not permit sufficient freedom in the Foundation to apportion funds where the greatest national interest would indicate.

The patent provisions of all of the bills except H. R. 359 approach the patent problem realistically and in a manner best calculated to protect the interest of the public and of persons and organizations having relations with the Foundation. The patent provisions of H. R. 359 are set out in greater detail than in the other bills and might be construed so as to discourage individuals and organizations from undertaking federally financed research. The NACA recommends that the patent provisions governing the operations of a National Science Foundation be as simple and realistic as may be consistent with the greatest national interest.

It appears that the establishment of a National Science Foundation will be not inconsistent with the operations of the NACA, since all of the bills except H. R. 359 provide that the Foundation's activities shall supplement and not supersede those of other Government agencies; and H. R. 359 provides that the Foundation shall not operate laboratories, pilot plants, or other such scientific or technical facilities.

In summation, the NACA recommends the passage of legislation to establish a National Science Foundation consistent in form and operation with the foregoing comments.

Sincerely yours,

J. C. HUNSAKER, *Chairman.*

TREASURY DEPARTMENT,
Washington, March 24, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D. C.*

MY DEAR MR. CHAIRMAN: Further reference is made to your request for the views of this Department on H. R. 12, H. R. 185, and H. R. 311, identical bills to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The subject matter of these bills does not primarily involve the activities of the Treasury Department. Certain provisions of interest to the Department, however, are commented on below.

Section 11 (b) of the bills would authorize the National Science Foundation to make such expenditures as may be necessary for administering the provisions of the legislation. Executive Order 6166 of June 10, 1933, established the Division of Disbursement in the Treasury Department as a centralized disbursing service for the executive branch of the Government. The Foundation would be established in the executive branch, and it would be desirable, to avoid possible uncertainty, that section 11 (b) of the bills explicitly provide that disbursements be made by the Division of Disbursement. This could be accomplished by adding "through the Division of Disbursement, Treasury Department," after the word "make" in the subsection.

Section 11 (f) of the bills would authorize the Foundation to receive and use funds donated by others. The Department recommends that the subsection be amended to provide that the donations be deposited as trust funds in the Treasury and appropriated for the stated purposes.

The Department has been advised by the Bureau of the Budget that there is no objection to the submission of this report to your committee.

Very truly yours,

JOHN W. SNYDER,
Secretary of the Treasury.

TREASURY DEPARTMENT,
Washington, April 4, 1949.

HON. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D. C.

MY DEAR MR. CHAIRMAN: Further reference is made to your requests for the views of this Department on H. R. 359, H. R. 1845, H. R. 2308, and H. R. 2751, bills to establish a National Science Foundation.

On March 24, 1949, the Department submitted a report to your committee on H. R. 12, H. R. 185, and H. R. 311, similar bills. The comments in that report, a copy of which is attached, are applicable to corresponding provisions in sections 10 or 11 of H. R. 359, H. R. 1845, H. R. 2308, and H. R. 2751.

Very truly yours,

THOMAS J. LYNCH,
Acting Secretary of the Treasury.

DEPARTMENT OF THE INTERIOR,
Washington, April 4, 1949.

HON. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

MY DEAR MR. CROSSER: The views of this Department have been requested on H. R. 12, H. R. 185, H. R. 311, H. R. 359, H. R. 1845, H. R. 2308, and H. R. 2751, bills to establish a National Science Foundation and for other purposes.

Among the bills in question, H. R. 12, and those other bills which contain the same provisions, appears to provide the most desirable framework for a National Science Foundation.

There is no doubt that national support of scientific research, especially of fundamental and background research, can be expected to yield rich dividends to our national economy. The last war provided ample evidence of the invaluable contributions that can be made by the results of research to warfare; it is high time that we sponsor, as a Nation and under civilian auspices, the research that can make similar contributions to our everyday life in peacetime. A necessary corollary to a research program of this sort is a mechanism to secure the necessary number of adequately trained scientists to participate in it. The scholarship provisions of the several bills, therefore, seem to me most desirable.

The Bureau of the Budget has advised that there is no objection to the submission of this report to your committee.

Sincerely yours,

OSCAR L. CHAPMAN,
Under Secretary of the Interior.

UNITED STATES CIVIL SERVICE COMMISSION,
Washington 25, D. C., March 22, 1949.

HON. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, House of Representatives.

DEAR MR. CROSSER: This is with further reference to your communication of January 14, 1949, requesting an expression of the Commission's views on the bill H. R. 12, for the establishment of the National Science Foundation. This report is confined to the provisions of section 15 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 15 (a) would permit the Director, subject to such general directives as may be prescribed by the Executive Committee, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar exempting language. The Commission in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as

amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

The Commission in accordance with established procedure has been informed by the Bureau of the Budget that there would be no objection to the submission of this report to your committee.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

FEDERAL SECURITY AGENCY,
Washington, March 31, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR MR. CHAIRMAN: This is in response to your recent letters on the following National Science Foundation bills: H. R. 12, H. R. 185, H. R. 311, H. R. 359, H. R. 1845, H. R. 2308 and H. R. 2751. In view of the fact that S. 247, on the same subject, has since passed the Senate and is likewise pending before your committee, we take the liberty of including that bill in this report.

All of these bills have the same basic objectives and all of them, except H. R. 359, are similar in their provisions. For the sake of convenience, this report will refer to H. R. 12 as representative of the group comprising that bill and H. R. 185, H. R. 311, and H. R. 2751, and to H. R. 1845 as representative of the group which includes that bill and H. R. 2308 and S. 247. Of these bills, H. R. 12 is identical with H. R. 6007, Eightieth Congress, as reported out by your committee, and H. R. 1845 is identical with S. 2385, Eightieth Congress, as it passed the Senate during that Congress.

In view of the extended legislative history of these and other bills in the present and prior Congresses and the fact that S. 247 has passed the Senate and is now pending before your committee with an explanation supplied by the report of the Senate Committee on Labor and Public Welfare, there is no need here for a detailed analysis of the various bills or for a full statement of our reasons for supporting the general objectives of these bills. Suffice it to say that we are in accord with the necessity of strengthening Federal aid for scientific research and development in this country, especially basic research, and for coordinating such Federal aid. We appreciate also that to attain this objective we must train and educate more scientists and potential scientists. In this connection the committee will of course wish to consider the report and recommendations of the President's Scientific Research Board as well as the report on Federal research submitted the other day to the Congress by the Commission on Organization of the Executive Branch of the Government.

In this report we shall therefore merely attempt to summarize our views on specific aspects of these bills which, in our judgment, require comment as being of particular interest and importance to this Agency.

1. *Administration in general.*—The present bills strengthen the position of the Executive Director (or Administrator in the case of H. R. 359), principally by providing for his appointment by the President. With the exception of H. R. 359, however, they would still leave the determination of administrative policy and, basically, the administration of the funds, primarily in the hands of a part-time group, consisting of persons whose primary interests and activities are private rather than public in nature and who, in view of that fact, would be far more valuable as advisory boards than in the policy determining and to a large extent administrative capacity in which they are cast by these bills. We feel that any Government organization charged with carrying out a public purpose with public funds should be headed by a full-time administrator or board whom the President, the Congress, and the people can hold fully responsible for the faithful and efficient discharge of their functions.

From this point of view, the administrative provisions of H. R. 359 which would make the responsible head of the Foundation an "Administrator" assisted by a number of advisory boards obviously is preferable to the other bills. If, for any reason, however, the committee should feel that the solution offered by H. R. 359 is not acceptable and that basic policy-making functions should be vested in a part-time general board and an executive committee, we believe that the bills represented by H. R. 12 are to be preferred to those like H. R. 1845 to the extent that the former would make the Executive Director at least a nonvoting member of the Foundation and of the Executive Board and would make it clear, as H. R. 1845 does not, that the Director, with the approval of the Foundation or committee, may not only award scholarships and graduate fellowships, but also make contractual and other arrangements for research provided for in the bills. (Compare secs. 6 (b), 10, and 11 of H. R. 12 with secs. 5, 9, and 10 of H. R. 1845.)

2. *Utilization of other Government agencies.*—Section 15 (h) of H. R. 12, etc., section 14 (h) of H. R. 1845, etc., and section 5 (d) of H. R. 359 provide that the activities of the Foundation should be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development. In the light of their context and legislative history, these provisions (see also secs. 10 (c) and 14 (g) of H. R. 1845 and secs. 11 (c) and 15 (g) of H. R. 12) indicate an intent to avoid duplication of governmental effort and to utilize, whenever feasible, the services and facilities of existing Government agencies which by reason of their functions are best equipped to carry out the Foundation's task on its behalf and in accordance with such general policies as it sees fit to prescribe. While the policy of utilization of other agencies is implicit in these bills, and while ample authority for such utilization would exist under the provisions of the Economy Act, we believe it would be desirable, nevertheless, to make this more explicit by inserting in section 14 (h) of H. R. 1845 and 15 (h) of H. R. 12 a specific provision that "In carrying out the provisions of this Act the Foundation shall utilize, to the maximum extent practicable, the services and facilities of existing Government agencies having similar functions."

A clear statement of congressional policy on this point is desirable from our point of view for two reasons. In the first place, in addition to the extensive research activities of the Public Health Service carried on in its own institutions and laboratories, that Service also administers the important provisions of the Public Health Service Act for research grants to State agencies, private agencies, and institutions and individuals, and is therefore the logical agency to carry out many of the Foundation's functions in the fields of medical and biological research. In the second place, this Agency has primary responsibility for governmental activities in the field of education and its services and facilities should be used by the Foundation to administer any fellowship or scholarship program which the Foundation is authorized to undertake. Not only is the Office of Education the duly constituted educational authority of the Government, but also the Public Health Service under existing statutory authority makes fellowship and training grants in the health field.

3. *Fellowship and scholarships.*—All of these bills provide for a program of "scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences." While we are in full agreement as to the imperative need for training and education in the various fields of science, and while I believe that the objectives of the National Science Foundation could not be realized unless some provision for training and education is made, we are also keenly aware of the disadvantages resulting from the limitation of fellowships and scholarships to the scientific field.

The danger of restricting a scholarship and fellowship program to the sciences lies in the resulting tendency to strengthen this particular field of higher education at the expense of other fields not correspondingly subsidized. Also, as respects undergraduate scholarships particularly, it is difficult to perceive how these can feasibly be limited to students in designated fields, because scholarship awards will normally be made either at the time of entrance to college or very soon thereafter. In a great many cases students will not have reached a final choice as to their field of study. Ideally, in a scholarship program, unusual ability and talent however manifested should be the basis of award, since only in this way can it be certain that the young people who may later be of great aid to the research program of the Nation will be prepared to conduct worthwhile research. Preferably, then, Federal scholarship and fellowship aid should extend to all fields of higher education as an integral part of a comprehensive

program of Federal aid to higher education. Lacking such a comprehensive program the dangers of a scholarship and fellowship program limited to the sciences as provided in these bills can and should be mitigated in these ways: (1) By assuring proper emphasis on the social sciences as a field in which scholarships and fellowships will be awarded, thus giving as broad a scope to the program as possible; (2) by assuring that the Foundation will administer at least the over-all aspects of the program through this Agency with its interest in, and responsibility for, progress in higher education generally; and (3) by including in the bill some appropriate provision which would give assurance that the scholarship and fellowship program will be integrated with a comprehensive program of aid to higher education, when such a program is developed and enacted by the Congress. The first two parts of this recommendation are the same in substance as the recommendations made in points 2 and 4 of this letter.

4. *Recognition of social sciences.*—The recognition of the social sciences as included among the sciences in which the Foundation is authorized and directed to initiate and support basic research, is implicit in the reference, in H. R. 12 and H. R. 1845 and similar bills, to "other sciences" and in the provision in these bills which requires the Foundation to "appraise the impact of research upon industrial development and upon the general welfare" (sec. 4 (a) (2)). The importance of the social sciences, however, and the fact that the need for basic research in those sciences is at least as great as in the natural sciences, makes it advisable, in our judgment, to stress the inclusion of the social sciences within the scope of the bill by naming them specifically in conjunction with the other sciences designated in section 4 (a) (2) and to provide specifically for a division of social sciences in section 6 (a). Compare section 3 (b) of H. R. 359, which specifically establishes within the Foundation a "Division of Social Sciences."

5. *Earmarking and allocation of appropriations.*—H. R. 359 would earmark not less than 15 percent of the appropriation for use in the fields of national defense and of health and the medical sciences. While we are not opposed to earmarking for the purpose of health and the medical sciences, we have some doubt that if there is to be any earmarking, defense and the health and medical sciences should be grouped together. We also doubt the soundness of providing for a special division of national defense as would be done by section 3 (b) of H. R. 359, since national defense would be served by research in most of the other fields and since, moreover, most of the research for national defense is applied rather than basic research.

Section 5 (c) of H. R. 359 further provides that not less than 25 percent of the appropriated funds shall be apportioned among the States, partly in equal shares and partly according to population, and be expended only for research and development activities of tax-supported colleges and universities, and that not less than 25 percent shall be expended in the facilities of nonprofit organizations without regard to these limitations as to the apportionment and as to the tax-supported character of the organization. This approach is rejected by the other bills. Certainly, we can see no justification for a provision that any part of the appropriation shall be apportioned among the States in equal shares.

We are advised by the Bureau of the Budget that H. R. 1845, H. R. 2308, and S. 247 are in accord with the program of the President subject to the reservation that these bills be amended to give the Director the same measure of authority in the matter of awarding research contracts and grants as he would exercise under the bills in awarding scholarships and fellowships.

Sincerely yours,

J. DONALD KINGSLEY,
Acting Administrator.

DEPARTMENT OF STATE,
Washington, March 30, 1949.

HON. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

MY DEAR MR. CROSSER: I refer further to your letters of January 12, 14, 19, and 28, and of February 2, 7, and 16, transmitting for the comment of the Department of State copies of H. R. 311, H. R. 12, H. R. 185, H. R. 1845, H. R. 359, H. R. 2308, and H. R. 2751, bills to promote the progress of science, to advance the national health, prosperity, and welfare, to secure the national defense, and for other purposes.

The Department strongly endorses the purposes of these bills, which are in accord with the recommendation of the President's Scientific Research Board. In expressing its support, the Department recalls that certain foreign governments, such as Great Britain, France, Sweden, and others, have in recent years recognized the increasing importance of promoting scientific progress and have established functioning organizations toward this end. It is believed that the operation of the National Science Foundation will meet an urgent and important need in this country for this type of activity.

The provisions relating to international aspects of the Foundation's program are particularly significant, from the standpoint of the Department. In general, the Department favors a grant of the widest possible latitude to the Foundation in the field of international interchange of science. Such a grant would be in keeping with this Government's participation in the United Nations and its affiliated specialized agencies. In particular, the Department feels that the Foundation should be vested with sufficient power to enter into such reciprocal arrangements with foreign governments as may be necessary for effecting a desirable interchange of scientific information. The section entitled "Authority of Foundation," in specifically authorizing the Foundation to enter into arrangements for carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, scientific activities would appear to provide the means for accomplishing this end. This is section 11 (c) in H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 10 (c) in H. R. 1845 and H. R. 2308. Section 11, entitled "Miscellaneous," in H. R. 359, has substantially the same purpose.

Similarly, subsection (a) of the section entitled "International Cooperation," authorizing the Foundation to cooperate in any international scientific research activities consistent with the purposes of this act, would appear to furnish opportunities for the profitable exchange of scientific knowledge. This is section 13 (a) in H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 12 (a) in H. R. 1845 and H. R. 2308. Section 9 (b) in H. R. 359 is substantively identical.

However, subsection (b) of the section entitled "International Cooperation," empowering the Director to defray expenses of participants in international scientific congresses, would appear to give the Foundation legislative authority to request the Congress to provide funds directly to it to enable the United States to participate in international conferences which the Foundation deems necessary to promote its objectives. Regarding this matter, attention is drawn to the fact that the international contingency appropriation is provided to this Department to enable the United States, in the conduct of its foreign affairs upon the approval of the Secretary of State, to participate in international congresses, such as those described in this section of the bills. Accordingly, the Department of State has had established for many years machinery through its respective coordinating areas for carrying on precisely the functions described in this subsection. This subsection is 9 (c) in H. R. 359.

Finally, the section entitled "Coordination With Foreign Policy," sets forth with sufficient clarity the relation of the Foundation to the Department with respect to international aspects of the Foundation's program. This is section 16 in H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 15 in H. R. 1845 and H. R. 2308. The section does not appear in H. R. 359.

The Department favors the section entitled "Patent Rights." Subsection (a) would appear to balance, within the framework of our present patent law, the protection of public interest with that of private equities. Subsection (b), by permitting a Foundation employee to assign a patent to the Government, affords this Government an opportunity to follow a policy flexible enough to cope with current and changing international patent conditions. This appears in section 12 of H. R. 311, H. R. 12, H. R. 185, and H. R. 2751; and section 11 in H. R. 1845 and H. R. 2308.

Section 8, entitled "Use and Dissemination of Research Findings," in H. R. 359 requires that all inventions made by employees of the Foundation shall be made freely available to the public, or, if patented, shall be dedicated to the public. It should be pointed out that in March 1947 the Interdepartmental Executive Committee on Economic Foreign Policy transmitted to the President certain recommendations bearing on the patenting of inventions developed pursuant to federally financed research. The Committee found that foreign governments owned substantial blocks of United States patents which might be used to interfere with the domestic trade and commerce of the United States. The Committee was therefore convinced of the necessity of negotiating with

those foreign governments in order to obtain, for United States nationals, rights under these foreign patents on a reciprocal basis. This Department believes that, until such negotiations are satisfactorily completed, patents acquired as a result of the work of the Foundation either in the United States or abroad should not be made unconditionally available to foreign governments and foreign nationals.

Because of the urgency of the matter, this report has not been cleared with the Bureau of the Budget, to which copies are being sent.

Sincerely yours,

ERNEST A. GROSS,
Assistant Secretary,
(For the Secretary of State).

DEPARTMENT OF AGRICULTURE,
Washington, March 24, 1949.

HON. ROBERT CROSSER,
Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.

DEAR MR. CROSSER: Further reference is made to your requests of January 12, 14, and 19, and February 16, 1949, for reports on H. R. 311, H. R. 12, H. R. 185, and H. R. 2751, respectively; also that of January 28, 1949, relating to H. R. 1845. These are bills to promote the progress of science, to advance the national health, prosperity, and welfare, to secure the national defense, and for other purposes. The first four of these appear to be identical, and the fifth (H. R. 1845) differs from the others only in several slight changes in phraseology which would not, we believe, materially affect the value of the proposed legislation.

The bills have the objective of stimulating scientific research and scientific education through the establishment of a National Science Foundation which would support research activities and the dissemination of technical information and would issue scholarships and fellowships in science. The Department is in hearty sympathy with the objective of the proposed legislation and feels that it is in the public interest for the Government to support scientific investigations and education.

The Department considers that the plan of organization proposed in these bills would prove more satisfactory than the one set up in several earlier National Science Foundation bills. Making the Director of the Foundation responsible to the President of the United States would make it possible for the organization to function through clear-cut channels of responsibility.

Our only general recommendation affecting the substance of the proposed legislation is that provision be made in section 7 for the inclusion of a Social Science Division for work in the social-science field. In our own research work in the Department of Agriculture, we have found that research in the social sciences, especially in economics and economic statistics, is essential to a clear understanding of the functioning of the agricultural economy and the development of an adequate agricultural program. We also feel that research in this same field is just as important to an understanding of other segments of our national economy and, as a result, we believe that careful consideration should be given to including a Social Science Division in any National Science Foundation which may be established.

One modification in detail appeals to us as a desirable improvement in the bills. On page 2, lines 5 and 7, of each bill, the members of the Foundation would be required to be eminent in the fields of the basic sciences, medical science, engineering, education, or public affairs. This phraseology might be interpreted as preventing leaders in applied-science fields, such as agricultural research, from being appointed to the Foundation, since medical science and engineering are the only applied-science fields referred to. It is suggested that eminence in science, engineering, education, or public affairs would constitute a broader description of the type of leadership desired.

The Bureau of the Budget advises that, from the standpoint of the program of the President, there is no objection to the submission of this report.

Sincerely,

CHARLES F. BRANNAN, *Secretary.*

UNITED STATES CIVIL SERVICE COMMISSION,
Washington, D. C., March 22, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of January 12, 1949, requesting an expression of the Commission's views on the bill H. R. 311 for the establishment of the National Science Foundation. This report is confined to the provisions of section 15 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 15 (a) would permit the Director, subject to such general directives as may be prescribed by the Executive Committee, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar exempting language. The Commission in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

The Commission, in accordance with established procedure, has been informed by the Bureau of the Budget that there would be no objection to the submission of this report to your committee.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

DEPARTMENT OF LABOR,
OFFICE OF THE SECRETARY,
Washington, March 29, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR CONGRESSMAN CROSSER: This is in response to your letter of January 12, 1949, requesting a report of the Department of Labor on H. R. 311, a bill to promote the progress of science, to advance the national health, prosperity and welfare, to secure the national defense, and for other purposes.

I favor in general the purpose and provisions of H. R. 311 to create a National Science Foundation with adequate powers and duties in furtherance of research and education in the sciences. I shall, however, confine my detailed comments to aspects of the measure of direct interest to the Department of Labor.

Section 10 (b) of the bill would provide that the Foundation shall maintain a register of scientific and technical personnel and in other ways provide a central clearing house for information covering all scientific and technical personnel in the United States and its possessions. In section 15 (j) of the bill there is provision for the transfer of the national roster of scientific and specialized personnel from the Department of Labor to the Foundation, together with appropriations, records, or property available for the administration of the roster, as the President shall determine.

The maintenance of such a roster is a very important function, and I believe that it properly belongs in the National Science Foundation. Since, however, a close working relationship should be established between the Foundation and the United States Employment Service in order to utilize the Nation-wide facilities of the Service for locating employment opportunities for scientifically trained personnel and for bringing properly qualified personnel to employers, considera-

tion may be given to indicating in the bill the desirability of establishing such a relationship.

With respect to the provisions of section 15 (j) of H. R. 311, transferring the roster from the Department of Labor, I wish to point out that the transfer of the United States Employment Service to the Federal Security Agency has raised some legal questions as to whether the roster is at present a function in the Department of Labor. The uncertain status of the roster at the present time would seem to make advisable the use of broader language in effecting transfer so as to ensure that the roster, the records, and any available appropriations would be transferred regardless of where they are situated at present.

The Bureau of the Budget advises that it has no objection to the submission of this report.

Yours very truly,

MAURICE J. TOBIN,
Secretary of Labor.

UNITED STATES CIVIL SERVICE COMMISSION,
Washington, D. C., March 22, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of January 28, 1949, requesting an expression of the Commission's views on the bill H. R. 1845 for the establishment of the National Science Foundation. This report is confined to the provisions of section 14 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 14 (a) would permit the Director, subject to such policies as the Foundation may from time to time prescribe, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar exempting language. The Commission, in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

Similar personnel provisions appear in the bills H. R. 12, H. R. 185, and H. R. 311. This report is based on the reports submitted to your committee on those bills to which the Bureau of the Budget found no objection.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

NATIONAL MILITARY ESTABLISHMENT,
RESEARCH AND DEVELOPMENT BOARD,
Washington 25, D. C., March 24, 1949.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

DEAR SIR: This is with reference to your recent letters requesting the views of the Secretary of Defense with respect to H. R. 2751, H. R. 2308, H. R. 1845, H. R. 359, H. R. 185, H. R. 311, and H. R. 12, bills to establish a National Science Foundation. I have been designated by the Secretary of Defense to prepare this report, and it has been coordinated among the Departments and Boards of the

National Military Establishment in accordance with procedures prescribed by the Secretary of Defense.

The establishment of a National Science Foundation will influence so profoundly the cultural and technological development of the country that it is small wonder that it has stimulated so much attention and comment during the past three and a half years. It is to be hoped that all that has been said and done with respect to the Foundation has served to bring about a fuller knowledge and appreciation of the objectives sought and of the most desirable means of achieving them. From the start, with but few exceptions, the need for a Science Foundation has been universally recognized and accepted both from the standpoint of aid and stimulus to research and from the standpoint of increasing the flow of trained scientists. This acceptance is general on the part of qualified scientists and educators in this country, and I believe that representatives of industry are likewise generally aware of the benefits which will accrue to it. We have reached a stage in basic research in many fields in which the complexity and costs of the equipment and instruments necessary for further progress, and the scale of activities are such as to be beyond the resources of individual scientists, of universities and even of the great private foundations. Financial assistance on the part of Government has become a necessity if work is to go forward effectively and speedily. High speed calculators necessary to reduce the enormous mass of experimental data to usable form in a reasonable time, and of course, particle accelerators for nuclear studies are good examples, and there are many others. Moreover, fields such as meteorology and terrestrial magnetism involve world-wide investigations which require Government cooperation.

The need for a National Science Foundation is even greater now than it was 3 years ago. Costs of research relative to endowment income and other available private sources of funds have continued to rise. Costs of education have likewise continued to rise, and a recent study indicates that average university tuition charges have increased about 40 percent since 1939. At the same time, the National Military Establishment, carrying on research and development on new and improved weapons with increasing economy and effectiveness, is reaching the limits of accumulated knowledge of a fundamental character. We are more and more often meeting problems the solution of which is retarded or temporarily prevented by the lack of such knowledge. This is true on all sides not only in the Military Establishment's research but also in the research activities of other Government agencies and of industry. The Foundation will extend on a broad front the basic scientific knowledge which then will become available for application by Government, education, and industry.

The bills before your committee fall into two principal groups. The one group comprises those identical with H. R. 6007 approved by your committee in the Eightieth Congress. The other group consists of bills identical with those passed by the Senate last year and approved by its Labor and Public Welfare Committee this year. Both are entirely satisfactory to us, and they meet the specifications for a suitable form of National Science Foundation which were accepted by all but a few of those interested in this legislation. Moreover, I believe that both groups of bills provide a generally acceptable resolution of all of the controversies which have arisen in the past.

Specifically, they provide for an independent agency in which the wisdom and experience of a rather broad cross section of the leaders of science, industry, and public affairs will be brought to bear on the highly complicated technical problems which the Foundation will be called upon to solve. At the same time, they provide for efficient administration by a well-paid director who will be subject to proper controls within the executive branch of the Government. This latter statement requires some qualification, for the Foundation should not be subject to all of the restrictions imposed upon most executive agencies. Basic research is by its nature unpredictable. It is therefore necessary to permit certain flexibility in the way the Foundation conducts its affairs. It should be able to select individuals and organizations to conduct research on the basis of the policies established by the Congress without competitive bidding and other usual formalities of contracting by executive agencies. It should also be able to support research projects over a considerable period of time, and this requires that its funds remain available beyond the usual period—preferably until expended. In addition, the Foundation should have flexibility with respect to its organizational structure in order that it may adapt itself most effectively from time to time to meet changing circumstances. As the rate of scientific progress

varies in different fields at different times, so the emphasis of the Foundation should shift. Thus it would in all likelihood wish to establish special commissions for cancer and heart diseases, but if the cause and cures should be discovered, the need would cease. Conversely, though the Foundation should be responsive to the backward areas of basic research which are the concern of the National Military Establishment and other Government agencies, relatively simple administrative mechanisms would probably suffice for liaison and coordination, but in the event of circumstances requiring mobilization of all or most of our scientific resources, then more highly organized machinery would be established to carry on the necessarily closer relations with the National Military Establishment. In this respect H. R. 1845 and H. R. 2308, in my opinion, are slightly preferable in that they are not quite so specific with respect to the initial organization of the Foundation as are the bills of the other group. However, I have no doubt that the eventual structure of the Foundation would be substantially the same under either type of bill.

H. R. 359 stands apart from the two groups of bills above discussed. In general, it contains the provisions which gave rise to the major issues the resolution of which has been accomplished by both of the groups of bills now before your committee. The most important of these issues have been fully discussed during the past 3 years. Nevertheless, it might be well to touch briefly on one of them—the patent provision.

We should not lose sight of the fact that the main purposes of the Foundation are to sponsor basic research and to provide scholarships and fellowships. It is very unusual to produce patentable inventions in the course of basic research so that the presence or absence of the patent clauses in either of the two groups of bills is of very little importance. Moreover, these provisions do not add any necessary authority and do little more than direct the Foundation to follow a course of action it would probably follow on its own initiative. But, the sweeping provisions of H. R. 359 would have the effect of amending the basic patent law and would apply to all Government agencies. I should hate to see the National Science Foundation legislation become embroiled in a controversy over the important but irrelevant question of general Government policies to govern the acquisition or disposition of patents.

Except for H. R. 359, I believe that any of the bills before your committee would provide a sound and effective organization. I do not think that it is necessary at this time for me to express a preference, for their differences are of a relatively minor nature which I am confident can readily be reconciled. I strongly urge, therefore, that your committee report out at the earliest opportunity any one of either of these groups of bills in order that we may be assured of a National Science Foundation this year.

The Bureau of the Budget has advised that there is no objection to the transmission of this report to you.

Very truly yours,

KARL T. COMPTON,
Chairman,

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS,
Washington 25, D. C., March 10, 1949.

Hon. ROBERT CROSSER, M. C.,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.*

DEAR MR. CROSSER: Permit me, in the absence of Chairman Hunsaker, to respond to your letter of February 16, 1949, enclosing a copy of H. R. 2751, a bill relating to the establishment of a National Science Foundation. This bill is similar to H. R. 12, one of the bills on which the National Advisory Committee for Aeronautics submitted comment to your committee under date of March 3, 1949, after clearance from the Bureau of the Budget.

Three copies of that letter are attached hereto, and the comments contained therein represent the present views of the NACA with relation to the establishment of a National Science Foundation.

Sincerely yours,

J. F. VICTORY,
Executive Secretary.

NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS,
Washington 25, D. C., March 3, 1949.

HON. ROBERT CROSSER, M. C.,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.*

DEAR MR. CROSSER: Receipt is acknowledged of your letter of February 1 enclosing for comment bills H. R. 12, H. R. 185, H. R. 311, and H. R. 1845; your letter of February 2 enclosing for comment bill H. R. 359; and your letter of February 7 enclosing for comment bill H. R. 2308. All of these bills concern the establishment of a National Science Foundation.

These bills were considered by the National Advisory Committee for Aeronautics at its meeting on February 10, 1949. It is the judgment of the NACA that it is timely to establish in the Federal structure such a National Science Foundation as is proposed in these bills.

Sound American business principles recognize the effectiveness of a board of directors guiding the policies and operations of an organization through officers who are subject to the Board. An organization similar to this is proposed in all of the bills except H. R. 359, which would place the whole authority in an administrator with a board which would be merely advisory to him. It is believed that highly qualified men who can best guide the destinies of a National Science Foundation would be reluctant to serve under an administrator who would be free to act without regard to their considered judgment. For this reason, the NACA suggests that the form of organization proposed in H. R. 359 is less desirable than that proposed in the other bills.

Section 5 of H. R. 359 would require geographical apportionment of the funds available for research and development activities. It is the opinion of the NACA that such a limitation would not permit sufficient freedom in the Foundation to apportion funds where the greatest national interest would indicate.

The patent provisions of all of the bills except H. R. 359 approach the patent problem realistically and in a manner best calculated to protect the interest of the public and of persons and organizations having relations with the Foundation. The patent provisions of H. R. 359 are set out in greater detail than in the other bills and might be construed so as to discourage individuals and organizations from undertaking federally financed research. The NACA recommends that the patent provisions governing the operations of a National Science Foundation be as simple and realistic as may be consistent with the greatest national interest.

It appears that the establishment of a National Science Foundation will not be inconsistent with the operations of the NACA, since all of the bills except H. R. 359 provide that the Foundation's activities shall supplement and not supersede those of other Government agencies; and H. R. 359 provides that the Foundation shall not operate laboratories, pilot plants, or other such scientific or technical facilities.

In summation, the NACA recommends the passage of legislation to establish a National Science Foundation consistent in form and operation with the foregoing comments.

Sincerely yours,

J. C. HUNSAKER, *Chairman.*UNITED STATES CIVIL SERVICE COMMISSION,
Washington 25, D. C., March 22, 1945.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of February 16, 1949, requesting an expression of the Commission's views on the bill H. R. 2751 for the establishment of the National Science Foundation. This report is confined to the provisions of section 15 (a) of the proposed bill relating to the appointment of technical and professional personnel. Section 15 (a) would permit the Director, subject to such general directives as may be prescribed by the executive committee, to employ such technical and professional personnel and fix their compensation without regard to the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained similar

exempting language. The Commission in its reports to the Members of Congress sponsoring the legislation and to the committees to which the bills were referred, stated its objections to excepting the employment of technical and professional personnel from competitive procedures and the Classification Act of 1923, as amended, on the grounds that the Commission is able to recruit such personnel and further that such legislation would violate the principles of the civil-service merit system.

The merit system established by the Civil Service Act of 1883 provides that positions in the executive establishment shall be open to competition among qualified applicants. The act also permits any necessary exemptions from competition by Executive order. The Commission therefore urges that the principles of the civil-service merit system and of the Classification Act of 1923, as amended, be adhered to in the appointment of technical and professional personnel to be required by the Foundation, and that the bill be amended accordingly.

Similar personnel provisions appear in the bills H. R. 12, H. R. 185 and H. R. 311. This report is based on the reports submitted to your committee on those bills to which the Bureau of the Budget found no objection.

By direction of the Commission:

Sincerely yours,

HARRY B. MITCHELL, *President.*

DEPARTMENT OF AGRICULTURE,
Washington, April 1, 1949.

Hon. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives.*

DEAR MR. CROSSER: Further reference is made to your request of February 2, 1949, for a report on H. R. 359, a bill to promote the progress of science and the useful arts, to secure the national defense, to advance the national health and welfare, and for other purposes.

This is one of a group of bills having the objective of stimulating scientific research and scientific education through the establishment of a National Science Foundation. We have heretofore reported to your committee on H. R. 311, H. R. 12, H. R. 185, H. R. 1845, and H. R. 2308, and have expressed our support of the basic principle of such legislation.

The form of organization proposed in H. R. 359 differs quite materially from that proposed in the other bills referred to. Under this bill, the National Science Foundation would be an independent agency of the Federal Government consisting of an administrative organization headed by an Administrator and operating in much the same manner as other Government departments and agencies. The Administrator would consult and advise with a National Science Board of nine members plus the chairmen of several divisional scientific committees.

In view of the fact that the duties of the Foundation largely relate to the determination of grants and contracts for research and the awarding of scholarships and fellowships, it is suggested that the form of organization provided in the five bills previously referred to would be better adapted to the type of Foundation provided for in this legislation. A Foundation of 24 members (as proposed in the other bills) can appropriately be given the responsibility of taking into consideration the wide variety of factors required in the allotment of grants and the awarding of fellowships, and advising the Director accordingly.

The Department questions the detailed requirements specified in section 8 (a) of H. R. 359. The inventory of all current federally financed research and development projects, the publication of significant data, inventions, discoveries, and findings and the establishment of the proposed central register might burden the Foundation to the degree of reducing its usefulness in the development of its principal objective, that of stimulating nongovernmental research and development. If such responsibilities are imposed, it would be difficult to avoid duplication of activities already conducted by other Government agencies.

Subsections (b), (c), and (d) of section 8 go beyond the establishment of a National Science Foundation, in enacting new provision into patent law that would apply to all Government agencies of the United States with respect both to research conducted within their own laboratories and that contracted for through other public or private research organizations. With certain closely restricted exceptions, it would require all inventions produced in the course of federally financed research and development to be made freely available to the public and if patented to be freely dedicated to the public. The experience of this Depart-

ment indicates that such a provision is unwise, as certain types of patents relating to the public health and welfare can be more advantageously be controlled through a license system than if they were to be freely dedicated to the public.

It is further suggested with respect to these three subsections, that a National Science Foundation Act would be an inappropriate piece of legislation in which to include general statutory provisions covering the patent policy of all Federal investigational work. Such legislation is a separate subject and would require careful and detailed examination on its own merits.

The committee's attention is also respectfully directed to section 11 (e) relating to the transfer of the Office of Scientific Research and Development. This paragraph is presumably obsolete in view of the liquidation of that Office some time ago.

For the reasons given, as well as other features in which it seems to us that various pending National Science Foundation bills have more advantageous features, the Department does not recommend the passage of H. R. 359.

The Bureau of the Budget advises that, from the standpoint of the program of the President, there is no objection to the submission of this report.

Sincerely,

CHARLES F. BRANNAN, *Secretary.*

UNITED STATES ATOMIC ENERGY COMMISSION,
Washington 25, D. C., March 15, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington 25, D. C.*

DEAR CONGRESSMAN CROSSER: This is in response to your request for comment on H. R. 359, a bill to establish a National Science Foundation. We have previously indicated our support for the establishment of a Science Foundation in commenting on a number of other bills on this subject. In our letter of March 3, 1949, we stated, however, that H. R. 359 raised certain questions as to which we would comment in a subsequent letter.

The principal points we would like to make relate to the effect of the passage of this bill on the Atomic Energy Act of 1946, to the coordination of the proposed Foundation's activities with the Atomic Energy Commission, and to the patent provisions in this bill.

At the time Congress was considering the Science Foundation bill (S. 526) in the first session of the Eightieth Congress, the chairman of the Joint Committee on Atomic Energy introduced an amendment, which was adopted, which dealt with the question of coordination of the Foundation's activities with those of the Atomic Energy Commission. The same provisions were also included in S. 2385, in the second session of the Eightieth Congress and have been included in almost all the Science Foundation bills introduced in the present session, including Senate bill S. 247 which was recently reported out of committee. We recommend that if H. R. 359 is used as a basis for Science Foundation legislation by your committee that such a section be included in this bill. The section provides that:

"The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 10 (e) [section dealing with property acquisition] in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946."

In considering the patents section of H. R. 359, it is our feeling that even with the above-quoted section in the bill, which would insure that the patents provision of the Atomic Energy Act would not be amended or superseded, the patent provisions of H. R. 359 are sufficiently comprehensive substantially to affect operations of the Commission in this field, and would raise many new problems for the Commission in its relation to industry and in the negotiation of its research and development contracts. If the committee is planning to go into the patent provisions of H. R. 359 in detail, we would like to have the opportunity to comment further on these provisions at a later date.

The Atomic Energy Commission has not been advised by the Bureau of the Budget as to the relationship of these bills to the program of the President.

Sincerely yours,

UNITED STATES ATOMIC ENERGY COMMISSION,
DAVID E. LILIENTHAL, *Chairman.*

UNITED STATES CIVIL SERVICE COMMISSION,
Washington 25, D. C., March 28, 1949.

HON. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, House of Representatives.*

DEAR MR. CROSSER: This is with further reference to your communication of February 2, 1949 in which you requested an expression of the Commission's views on H. R. 359, a bill for the establishment of the National Science Foundation.

Section 3 (b) of the bill proposes the establishment within the Foundation of a number of divisions, each to exercise such duties and perform such functions as are prescribed by the Administrator upon advice of the Board. Each division would be headed by a Director to be appointed by the Administrator, the compensation of the Director to be \$12,000 per annum.

Section 3 (c) of H. R. 359 would also empower the Administrator to employ expert scientific, technical, and professional personnel without regard to the civil service laws, and to fix their compensation without regard to the Classification Act of 1923, as amended.

During the last Congress the bills introduced to establish the National Science Foundation, one of which (S. 526) was vetoed by the President, contained language also exempting technical and professional personnel from the provisions of civil service laws and regulations and the Classification Act. When the Commission reported on the bills introduced in the Eightieth Congress, it expressed its objections on the ground that the proposed legislation was violative of the principles of the civil service merit system, particularly that ample provision is had under the system for any necessary exemptions by Executive authority. The Commission must therefore reiterate its opposition to any departure from the civil service merit system in the method of effecting appointments to the positions considered in sections 3 (b) and 3 (c) of H. R. 359.

Furthermore, the Commission believes that as a general rule, legislation which specifically fixes salaries for individual positions, agency by agency, is not as desirable legislation as a salary measure of general coverage. There will shortly be presented to the Congress a proposed revision of the Classification Act which will, among other things, propose the raising of the present salary ceiling of \$10,330 per annum for the career service. General legislation of that type will not only meet current needs but will set for the future new salary levels which in individual cases have been recognized as desirable by Members of Congress in bills introduced in the Eightieth and Eighty-first Congresses. At the time when such a revision of the Classification Act is before the Congress for actual consideration, the Commission would feel itself obliged to object to any special action for a single group of positions in a particular agency which necessarily would fall under such a Classification Act. In the meantime, the Commission would not object to the consideration of the provision of H. R. 359 fixing the salary of \$12,000 per annum for the Division Directors of the National Science Foundation.

The Commission, in accordance with established procedure, has been informed by the Bureau of the Budget that there would be no objection to the submission of the proposed report to your committee.

By direction of the Commission.

Sincerely yours,

HARRY B. MITCHELL, *President.*

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington 25, D. C., March 29, 1949.

HON. J. PERCY PRIEST,

*Chairman, Subcommittee on Public Health, Science, and Commerce,
Committee on Interstate and Foreign Commerce,
United States House of Representatives, Washington 25, D. C.*

MY DEAR MR. PRIEST: I note that S. 247, a bill to create a National Science Foundation, has recently passed the Senate, and that your subcommittee is now considering several bills on this subject, including H. R. 12. On February 7, 1949, I transmitted to the chairman of the Senate Labor and Public Welfare Committee the views of the Bureau of the Budget on the bill then before the Senate committee, and you may find it helpful to know the attitude of the Bureau

of the Budget toward H. R. 12. We have, as you know, given thoughtful consideration to science foundation legislation since the first bills on this subject were introduced in the Seventy-ninth Congress. Through this legislation, which the President has frequently and earnestly requested, the Congress is recognizing that the growth and leadership of our Nation in scientific knowledge must be encouraged by a positive national policy. Consistent with this aim, a National Science Foundation created as a central element of this national policy must take its proper place within our system of responsible and democratic government.

Generally speaking, H. R. 12 appears to provide a workable basis for the establishment and operation of a National Science Foundation. However, I am somewhat disturbed by certain structural rigidities imposed upon the Foundation by the provisions of the bill. I refer to (1) the mandatory provision of an executive committee in section 5, (2) the establishment of a specific divisional structure in section 7, and (3) the establishment of special commissions for specific diseases in section 4 (a) (7). I believe that the purposes of the Foundation would be better served by substituting in each of these instances permissive language which would serve to guide the members of the Foundation in approaching the problem of organization, while recognizing the essential need for flexibility in a major undertaking of this nature where organization must be readily adjusted to the changing frontiers of scientific research. I believe that the details of internal organization should be left up to the good judgment of the Foundation. I refer particularly to the mandatory provision for an executive committee because this provision, different from the other two cited, would not be subject to administrative revision. In this connection, the permissive provision in S. 247 appears to be distinctly preferable.

You will recall that the extent of the Director's authority, particularly with reference to his role in the initiation and approval of contracts, was under discussion between the Senate and the Bureau of the Budget a year ago. This issue was the subject of a letter which my predecessor, Mr. Webb, addressed to Senator Smith last year as the Senate approached final action on the then-pending S. 2385. A copy of this letter is attached for your information. Subsection 6 (b) of H. R. 12 appears to be in accord with the recommendation which Director Webb urged in his letter, and I recommend strongly that this provision be retained in the legislation.

Certain changes in H. R. 12 might be made advantageously with a view toward both the clarification of internal relationships within the Foundation and improved drafting. A list of such possible changes, with further reference to certain points mentioned in this letter, and a marked copy of H. R. 12 are attached for the Committee's consideration.

Representatives of my staff will be glad to discuss these points with you or members of the committee staff.

I trust that these comments will prove useful in the committee's consideration of this important legislation.

Sincerely yours,

FRANK PACE, Jr., *Director.*

EXECUTIVE OFFICE OF THE PRESIDENT,
BUREAU OF THE BUDGET,
Washington, 25, D. C., May 5, 1948.

HON. ALEXANDER H. SMITH,

United States Senate, Washington 25, D. C.

MY DEAR SENATOR SMITH: The discussion of National Science Foundation legislation in the Senate on May 3 has been called to my attention. In particular I have noted your remarks that the bill, S. 2385, meets the objections raised by the President in his veto of S. 526 last year.

S. 2385 in its present form has not, to my knowledge, been referred to any agency of the executive branch for comment. The Bureau of the Budget memorandum commenting on S. 2385 in its original form made certain suggestions for clarifying the role of the Director, the Executive Committee, and the 24-man Foundation.

It appears that the bill as presently drawn, vests complete authority to make grants and contracts in the 24-man Foundation. By including specific reference to functions of the Director in sections 7, 9, and 12 and striking out the reference to the Director's authority with respect to grants in section 5 (b), it could easily be inferred that it was the intent of the Congress that the Director should have no responsibility with respect to grants and contracts. As you know, in

all of our discussions concerning the organization of the Foundation, the awarding of contracts had been vested in the Director with the concurrence of the Executive Committee. In this way, both the interest of the scientists and the interest of the Government were adequately safeguarded. Without the safeguarding of both of these interests the bill is subject to one of the major criticisms advanced by the President in disapproving S. 526. This was a key point in previous drafts of the bill to which Dr. Shapley and Dr. Bush fully agreed.

It is my impression from reading the report of the Senate committee, that the above resulted from an oversight in revising the original bill. In order to remove any doubt as to the rôle of the Director in the making of grants and contracts, I recommend, strongly, that the following language be included as a new section 5 (b) in the revised bill:

"The Director shall carry out the policies established by the Foundation and is authorized to exercise the authorities vested in the Foundation in section 10 of this Act: *Provided*, That he shall exercise the authority granted in paragraph (c) of section 10 only with the approval of the Foundation."

Sincerely yours,

JAMES E. WEBB, *Director*.

SUGGESTED DRAFTING REVISIONS IN H. R. 12

1. Clarification of internal relationships

Throughout H. R. 12 as presently drafted, the bill confers functions and authorities upon the "Foundation" without making it clear that these powers are conferred in certain instances upon the 24-member group and in other instances upon the Foundation as a governmental agency. It would appear that these ambiguities could be cleared up through the process of redrafting. One workable approach to the problem would involve the following changes:

Section 2: A second sentence would be added to what already appears in this section, which would read "The Foundation shall consist of a National Science Board (hereinafter referred to as the 'Board') and a Director."

Section 3 would be given a new title heading to read "Membership of the Board." Throughout section 3, the word "Board" would be used in lieu of the term "Foundation."

The word "Board" would be substituted for the term "Foundation" (and in some cases for the words "Executive Committee," as indicated in the third section of these suggestions, below) elsewhere throughout the bill at each point where it is intended to refer to the 24-member group. It is believed that the following list covers all of these points:

[Page 2, lines 1, 2, and 19; page 3, lines 4 and 9; page 4, line 18; page 5, lines 3, 7, 12, 19, and 21; page 8, lines 2, 4, 7, and 22; page 9, lines 5, 7, 12, 15, 20, and 21; page 10, lines 12 and 24; page 14, line 18; page 15, lines 14 and 22; page 16, lines 9, 14, 16, and 23; and page 17, line 13.]

It is not intended that this change in the designation of the 24-member group should in any way diminish the authority of that body as already provided in the bill, nor change the authority of the Director. It is simply a clarifying revision, resembling in some outward respects the structure of the Tennessee Valley Authority, which consists of the Authority itself, a Board of Directors, and a General Manager. There would result a useful distinction among the Foundation as an agency, the Board, and the Director.

2. Establishment of special commissions

Section 4(a) (7) would specifically require the initial establishment of special commissions on cancer, on heart and cardiovascular diseases, and on poliomyelitis and other degenerative diseases, as well as authorize the Foundation to establish such other special commissions as it might deem necessary. It would appear that the purposes of the legislation would be better served by omitting reference to specific diseases and providing simply for the establishment of such special commissions as the Foundation may from time to time deem necessary.

3. Creation of executive committee

Section 5 creates and gives certain powers and duties to an executive committee. In subsequent sections of the bill specific additional powers and duties are assigned to this committee. This mandatory provision of an executive committee and the assignment to it of specific functions introduces an undesirable degree of rigidity into the statutory framework of the Foundation. While

there is little doubt but that the 24-member group would wish to create an executive committee for the efficient conduct of its business, this could be appropriately provided for if the committee considers it necessary, by the introduction into section 4 of a paragraph along the lines of paragraph 4 (e) of S. 247, which reads as follows:

"(e) The Foundation is authorized to appoint from among its members an executive committee and from time to time to appoint from among its members or otherwise, such other committees as it deems necessary and to assign to such executive committee or other committees such powers and functions as it deems appropriate for the purposes of this act."

Directly related to the suggestion that section 5 be deleted and replaced by a permissive paragraph in section 4 is the suggestion that the words "Executive Committee" be replaced by the word "Foundation" (or by the word "Board"; see the first section of these suggestions) wherever they now appear in the bill, except on lines 20 and 21 of page 7, where all after the word "Foundation" on line 20, page 7, would be stricken.

4. Director's right to vote

It is suggested that the word "nonvoting" be deleted from section 6 (a) of the bill, on lines 19 and 20 of page 7; it would appear that the Director ought not be denied the right to vote in his capacity of an ex officio member of the Foundation.

5. Authority of Director over contracts and grants

The spirit of paragraph 6 (b) in H. R. 12 meets adequately the need for clarification of the authority of the Director with respect to contracts and grants. However, it is believed that, if the proposal in the first section of these suggestions relative to the idea of a board is accepted, the sense of paragraph 6 (b) could be clarified and made more meaningful by revision along the following lines:

Subsection 6 (b): "The Director shall carry out the policies established by the Board, and is authorized to exercise the authorities vested in the Foundation in section 10 of this act: *Provided*, That he shall exercise the authority granted in paragraph (c) of section 10 only with the approval of the Board."

6. Compensation of the Director

Section 6 provides for the appointment and compensation of a Director. It is suggested that the committee may wish to give consideration to increasing the rate of compensation of the Director to \$17,500 per annum, thereby bringing it up to a level consistent with pending Federal pay legislation.

7. Divisions within the Foundation

Section 7 of the pending bill enumerates the four principal divisions to be established in the Foundation. Inasmuch as this provision does not seek to prescribe the permanent organization of the Foundation, and since the Board is empowered to disestablish even the enumerated divisions, it would appear to be sound to strike paragraph (a) in entirety, enabling the Board under subsection (b) to determine from the outset the internal structure best suited to effectuate whatever program the Board may evolve.

8. Authority of the Foundation

It is recommended that in section 11, on page 11 at line 12, after the word "empowered" there be inserted the following qualifying language: "within the limits of available appropriations."

This amendment has the purpose of limiting the Foundation's authority to enter into contracts by requiring that funds be appropriated as a condition precedent to the incurring of contractual obligations. It is a standard fiscal provision which will not in any way interfere with the proper administration of the Foundation's business.

9. Research contracts

With reference to subsection 11 (c), on page 12 at line 3, it is noted that the use of the qualifying adjective "basic" before the word "research" is more limiting on the authority of the Foundation than is the case in subsection 11 (d), 11 (e), and 11 (i). In the latter cases the legislation speaks of research without qualifying it as "basic." It is further noted that while the Foundation is empowered by subsection 4 (a) (3) to conduct research (without qualification of that term) in connection with matters relating to the national defense, the Foundation is limited by subsection 11 (c) to contracts for "basic" research. Accordingly, it

is suggested that the committee may wish to consider deleting the term "basic" on page 12 at line 3, thereby rendering that subsection consistent with other provisions of the bill. This should in no sense run counter to what is believed to be the intent of the committee that the main focus of the Foundation shall be upon basic research.

10. Appropriations

Section 14 authorizes funds to be appropriated for the purposes of the legislation. It is noted that subsection (b) extends the availability of such funds for 4 years for expenditure purposes, but the language infers that the Foundation is limited to only 1 year's availability for obligation purposes. It has been our experience that the very nature of research requires flexibility in appropriation structure permitting either freedom or restraint in the light of changing conditions. For this reason, the Bureau considers it desirable to avoid specific provisions on the availability of research funds insofar as enabling legislation is concerned, preferring to leave the decision to be resolved in the appropriation acts.

Accordingly, it is recommended that the committee consider a substitute for subsection 14 (b), to read as follows:

"(b) Appropriations made pursuant to the authority provided in subsection (a) shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the acts making such appropriations."

11. Compensation of the Deputy Director

On page 16 at line 18, it is recommended that a period be placed after the word "Director," and that the words "and who shall receive compensation at a rate not to exceed \$12,000 per annum" be deleted. The Deputy Director's rate of compensation would be handled, instead, under general legislation dealing with revision of the Classification Act.

12. Compensation of members of the Board

It is noted that the bill in subsection 15 (d) would compensate Board members and other part-time officials at a rate not to exceed \$25 per day. It is recommended that this provision be changed to substitute a rate of \$50 per day for members of the Board, and \$35 per day for members of divisional committees and special commissions. These revisions would provide a scale of compensation directly comparable with provisions of the Atomic Energy Act of 1946 (Public Law 585, 79th Cong.), which provides \$50 per day for members of AEC's General Advisory Committee, and the National Security Act of 1947 (Public Law 253, 80th Cong.), which provides \$35 per day for persons serving in an advisory capacity to the Secretary of Defense.

13. Exemptions from prosecution

Subsection 15 (f) exempts members of the Board, divisional committees, and special commissions from prosecution under certain legislation of general applicability. It is believed that the committee should consider revisions and further exemptions enacted by the Eightieth Congress. Specifically, reference is made to sections 281, 283, and 284 of title 18, U. S. C. (Public Law 772, 80th Cong.), and section 190 of the Revised Statutes (5 U. S. C. 99).

14. Relationship to other Government agencies

Subsection 15 (h) provides that the activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions of other Government agencies authorized to engage in scientific research or development. It is felt that this subsection might, at some future time, constitute an obstacle to the improved coordination of research activities.

15. National scientific roster

Subsection 15 (j) refers to the National Roster of Scientific and Specialized Personnel, which was created early in the war by Executive order, but which has been inactive for some time past. It is located in the United States Employment Service, which was transferred to the Federal Security Agency by the Eightieth Congress. It is suggested, therefore, that "United States Employment Service" be substituted for "Department of Labor" in paragraph 15 (j); this solution is deemed preferable to substituting "Federal Security Agency" in view of the possibility that USES may be returned to the Department of Labor. It is suggested, further, that "the Director of the Bureau of the Budget" be substituted for "the President" on lines 10 and 12, page 19.

The attention of the committee is invited to the fact that a postwar roster of scientific personnel has been established by the Office of Naval Research; it is intended that this roster would be transferred to the Foundation by administrative action upon its establishment.

16. *Coordination with foreign policy*

It is suggested that the structure of the bill might be simplified by transposing section 16 in its entirety to section 13, which deals with the same general subject matter. The result would be that section 13 would be lengthened by the addition of the two subsections which presently comprise section 16.

TREASURY DEPARTMENT,
Washington, June 10, 1949.

Hon. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D. C.*

MY DEAR MR. CHAIRMAN: Further reference is made to your request for the views of this Department on H. R. 4846, a bill to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

On March 24, 1949, the Department submitted a report to your committee on H. R. 12, H. R. 185, and H. R. 311, similar bills. The comments in that report, a copy of which is attached, are applicable to corresponding provisions in H. R. 4846.

Very truly yours,

THOMAS J. LYNCH,
Acting Secretary of the Treasury.

MARCH 24, 1949.

Hon. ROBERT CROSSER,

*Chairman, Committee on Interstate and Foreign Commerce,
House Office Building, Washington, D. C.*

MY DEAR MR. CHAIRMAN: Further reference is made to your request for the views of this Department on H. R. 12, H. R. 185, and H. R. 311, identical bills to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The subject matter of these bills does not primarily involve the activities of the Treasury Department. Certain provisions of interest to the Department, however, are commented on below.

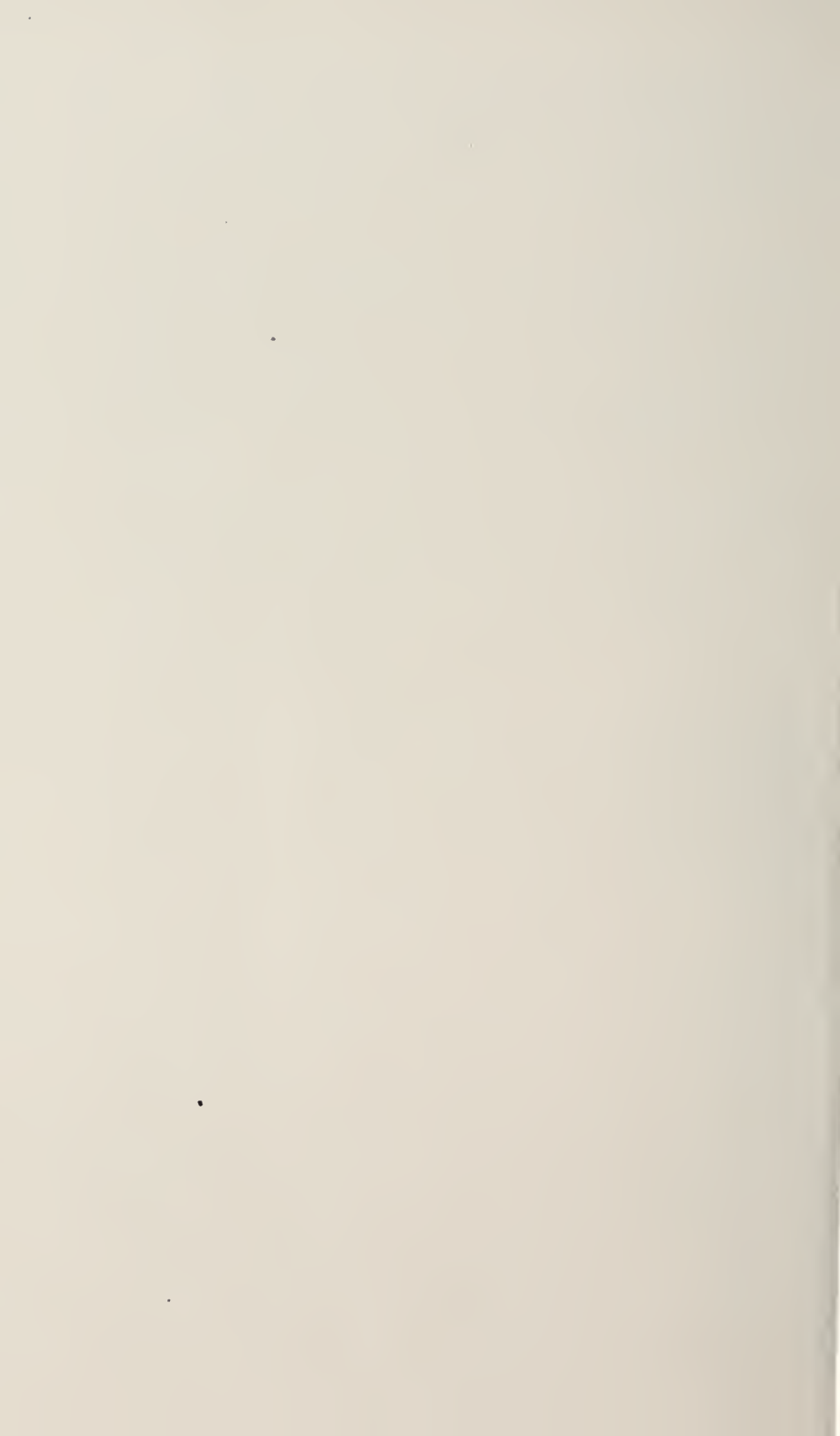
Section 11 (b) of the bills would authorize the National Science Foundation to make such expenditures as may be necessary for administering the provisions of the legislation. Executive Order 6166 of June 10, 1933, established the Division of Disbursement in the Treasury Department as a centralized disbursing service for the executive branch of the Government. The Foundation would be established in the executive branch, and it would be desirable, to avoid possible uncertainty, that section 11 (b) of the bills explicitly provide that disbursements be made by the Division of Disbursement. This could be accomplished by adding "through the Division of Disbursement, Treasury Department" after the word "make" in the subsection.

Section 11 (f) of the bills would authorize the Foundation to receive and use funds donated by others. The Department recommends that the subsection be amended to provide that the donations be deposited as trust funds in the Treasury and appropriated for the stated purposes.

The Department has been advised by the Bureau of the Budget that there is no objection to the submission of this report to your committee.

Very truly yours,

JOHN W. SNYDER,
Secretary of the Treasury.



Union Calendar No. 322

81ST CONGRESS
1ST SESSION

H. R. 4846

[Report No. 796]

IN THE HOUSE OF REPRESENTATIVES

MAY 24, 1949

Mr. PRIEST introduced the following bill; which was referred to the Committee on Interstate and Foreign Commerce

JUNE 14, 1949

Reported with amendments, committed to the Committee of the Whole House on the State of the Union; and ordered to be printed

[Omit the part struck through and insert the part printed in italic]

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*
3 That this Act may be cited as the "National Science Foun-
4 dation Act of 1949".

5 ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

6 SEC. 2. There is hereby established in the executive
7 branch of the Government an independent agency to be
8 known as the National Science Foundation (hereinafter
9 referred to as the "Foundation"). The Foundation shall

1 consist of a National Science Board (hereinafter referred
2 to as the "Board") and a Director.

3 FUNCTIONS OF THE FOUNDATION

4 SEC. 3. (a) The Foundation is authorized and directed—

5 (1) to develop and encourage the pursuit of a na-
6 tional policy for the promotion of basic research and edu-
7 cation in the sciences;

8 (2) to initiate and support basic scientific research
9 in the mathematical, physical, medical, biological, engi-
10 neering, and other sciences, by making contracts or other
11 arrangements (including grants, loans, and other forms
12 of assistance) for the conduct of such basic scientific
13 research and to appraise the impact of research upon
14 industrial development and upon the general welfare;

15 (3) after consultation with the Secretary of De-
16 fense, to initiate and support scientific research in con-
17 nection with matters relating to the national defense
18 by making contracts or other arrangements (including
19 grants, loans, and other forms of assistance) for the
20 conduct of such scientific research;

21 (4) to award, as provided in section 10, scholar-
22 ships and graduate fellowships in the mathematical,
23 physical, medical, biological, engineering, and other
24 sciences;

25 (5) to foster the interchange of scientific informa-

tion among scientists in the United States and foreign countries;

~~(6) to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups;~~

(6) to evaluate scientific research programs undertaken by individuals and by public and private research groups, including scientific research programs of agencies of the Federal Government, and to correlate the Foundation's scientific research programs with such programs;

(7) to establish such special commissions as the Board may from time to time deem necessary for the purposes of this Act; and

(8) to maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including its Territories and possessions.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United

1 States, including its Territories and possessions, and to avoid
2 undue concentration of such research and education.

3 (c) The Foundation shall render an annual report to
4 the President for submission on or before the 15th day
5 of January of each year to the Congress, summarizing the ac-
6 tivities of the Foundation and making such recommendations
7 as it may deem appropriate. Such report shall include in full
8 the report of the Executive Committee to the Board, pro-
9 vided for in section 6 (e), and information as to the acquisi-
10 tion and disposition by the Foundation of any patents and
11 patent rights.

12 NATIONAL SCIENCE BOARD

13 SEC. 4. (a) The Board shall consist of twenty-four
14 members to be appointed by the President, by and with the
15 advice and consent of the Senate, and of the Director ex
16 officio, and shall, except as otherwise provided in this Act,
17 exercise the authority granted to the Foundation by this
18 Act. The persons nominated for appointment as members
19 (1) shall be eminent in the fields of the basic sciences,
20 medical science, engineering, agriculture, education, or
21 public affairs; (2) shall be selected solely on the basis of
22 established records of distinguished service; and (3) shall
23 be so selected as to provide representation of the views
24 of scientific leaders in all areas of the Nation. The
25 President is requested, in the making of nominations of

1 persons for appointment as members, to give due considera-
2 tion to any recommendations for nomination which may be
3 submitted to him by the National Academy of Sciences, the
4 Association of Land Grant Colleges and Universities, the
5 National Association of State Universities, the Association
6 of American Colleges, or by other scientific or educational
7 organizations.

8 (b) The term of office of each voting member of the
9 Board shall be six years, except that (1) any member ap-
10 pointed to fill a vacancy occurring prior to the expiration
11 of the term for which his predecessor was appointed shall
12 be appointed for the remainder of such term; and (2) the
13 terms of office of the members first taking office after the
14 date of enactment of this Act shall expire, as designated
15 by the President at the time of appointment, eight at the
16 end of two years, eight at the end of four years, and eight at
17 the end of six years, after the date of enactment of this
18 Act. Any person who has been a member of the Board
19 for twelve consecutive years shall thereafter be ineligible
20 for appointment during the two-year period following the
21 expiration of such twelfth year.

22 (c) The President shall call the first meeting of the
23 Board, at which the first order of business shall be the elec-
24 tion of a chairman and a vice chairman.

25 (d) The Board shall meet annually on the first Mon-

1 day in December and at such other times as the Chairman
2 may determine, but he shall also call a meeting whenever
3 one-third of the members so request in writing. A majority
4 of the voting members of the Board shall constitute a
5 quorum. Each member shall be given notice, by registered
6 mail mailed to his last-known address of record not less than
7 fifteen days prior to any meeting, of the call of such meeting.

8 (e) The first Chairman and Vice Chairman of the
9 Board shall be elected by the Board to serve until the
10 first Monday in December next succeeding the date of elec-
11 tion at which time a Chairman and Vice Chairman shall
12 be elected for a term of two years. Thereafter such election
13 shall take place at the annual meeting occurring at the end of
14 each such term. The Vice Chairman shall perform the duties
15 of the Chairman in his absence. In case a vacancy occurs in
16 the chairmanship or vice chairmanship, the Board shall elect
17 a member to fill such vacancy.

18 DIRECTOR OF THE FOUNDATION

19 SEC. 5. (a) There shall be a Director of the Foundation
20 who shall be appointed by the President, by and with
21 the advice and consent of the Senate, after receiving recom-
22 mendations from the Board. He shall serve as a non-
23 voting ex officio member of the Board and also as the
24 nonvoting Chairman of the Executive Committee. In addi-
25 tion thereto he shall be the chief executive officer of the

1 Foundation. The Director shall receive compensation at the
2 rate of \$15,000 per annum and shall serve for a term of six
3 years unless sooner removed by the President.

4 (b) In addition to the powers and duties specifically
5 vested in him by this Act, the Director shall, in accord-
6 ance with the policies established by the Board, exercise
7 the powers granted by sections 10 and 11 of this Act,
8 together with such other powers and duties as may be
9 delegated to him by the Board; but the powers granted by
10 sections 10 and 11 (c) shall be exercised only with the
11 approval of the Board.

12 EXECUTIVE COMMITTEE

13 SEC. 6. (a) There is hereby established an Executive
14 Committee of the Board which shall consist of the Director
15 ex officio and nine other members elected by the members of
16 the Board from among their number. The term of office
17 of each member of the Executive Committee shall be two
18 years except that (1) any member elected to fill a vacancy
19 occurring prior to the expiration of the term for which his
20 predecessor was elected shall be elected for the remainder of
21 such term; and (2) the term of office of four of the members
22 first elected after the date of enactment of this Act shall be
23 one year. Any person who has been a member of the Execu-
24 tive Committee for six consecutive years shall thereafter be
25 ineligible for election during the two-year period following

1 the expiration of such sixth year. The membership of the
2 Executive Committee shall, so far as practicable, be repre-
3 sentative of diverse interests and shall be so chosen as to
4 provide representation, so far as practicable, for all areas
5 of the Nation.

6 (b) In addition to the powers and duties specifically
7 vested in it by this Act, the Executive Committee shall
8 exercise such powers and duties as may be delegated to it
9 by the Board.

10 (c) The Executive Committee shall meet at the call of
11 its chairman or at such times as may be fixed by itself, but
12 not less than six times each year.

13 (d) A majority of the voting members of the Executive
14 Committee shall constitute a quorum.

15 (e) The Executive Committee shall render an annual
16 report to the Board, and such other reports as it may
17 deem necessary, summarizing the activities of the Executive
18 Committee, making such recommendations as it may deem
19 appropriate, and setting forth the recommendations of the
20 divisional committees and special commissions. Minority
21 views and recommendations, if any, of members of the
22 Executive Committee, the divisional committees, and special
23 commissions shall be included in such reports.

24 DIVISIONS WITHIN THE FOUNDATION

25 SEC. 7. (a) Until otherwise provided by the Board

1 there shall be within the Foundation the following divisions:

2 (1) A Division of Medical Research;

3 (2) A Division of Mathematical, Physical, and En-
4 gineering Sciences;

5 (3) A Division of Biological Sciences; and

6 (4) A Division of Scientific Personnel and Education,
7 which shall be concerned with programs of the Foundation
8 relating to the granting of scholarships and graduate fellow-
9 ships in the mathematical, physical, medical, biological, en-
10 gineering, and other sciences.

11 (b) There shall also be within the Foundation such
12 other divisions as the Board may, from time to time, deem
13 necessary.

14 DIVISIONAL COMMITTEES

15 SEC. 8. (a) There shall be a committee for each divi-
16 sion of the Foundation.

17 (b) Each divisional committee shall be appointed by
18 the Executive Committee and shall consist of not less than
19 five persons who may be members or nonmembers of the
20 Board.

21 (c) The terms of members of each divisional com-
22 mittee shall be two years. Each divisional committee shall
23 annually elect its own chairman from among its own mem-
24 bers and shall prescribe its own rules of procedure subject

1 to such restrictions as may be prescribed by the Executive
2 Committee.

3 (d) Each divisional committee shall make recommenda-
4 tions to, and advise and consult with, the Executive Com-
5 mittee and the Director with respect to matters relating to
6 the program of its division.

7 SPECIAL COMMISSIONS

8 SEC. 9. (a) Each special commission established
9 pursuant to section 3 (a) (7) shall consist of eleven
10 members appointed by the Executive Committee, six of
11 whom shall be eminent scientists and five of whom
12 shall be persons other than scientists. Each special com-
13 mission shall choose its own chairman and vice chairman.

14 (b) It shall be the duty of each such special commis-
15 sion to make a comprehensive survey of research, both
16 public and private, being carried on in its field, and to
17 formulate and recommend to the Foundation at the earliest
18 practicable date an over-all research program in its field.

19 SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

20 SEC. 10. (a) The Foundation is authorized to award,
21 within the limits of funds made available specifically for
22 such purpose pursuant to section 15, scholarships and
23 graduate fellowships for scientific study or scientific work in
24 the mathematical, physical, medical, biological, engineering,
25 and other sciences at accredited nonprofit American or non-

1 profit foreign institutions of higher education, selected by
2 the recipient of such aid, for stated periods of time. Persons
3 shall be selected for such scholarships and fellowships from
4 among citizens of the United States, and such selections shall
5 be made solely on the basis of ability; but in any case in
6 which two or more applicants for scholarships or fel-
7 lowships, as the case may be, are deemed by the
8 Foundation to be possessed of substantially equal ability,
9 and there are not sufficient scholarships or fellowships,
10 as the case may be, available to grant one to each of such
11 applicants, the available scholarship or scholarships or
12 fellowship or fellowships shall be awarded to the applicants
13 in such manner as will tend to result in a wide distribution
14 of scholarships and fellowships among the States, Territories,
15 possessions, and the District of Columbia.

16 *(b) No part of any funds appropriated or otherwise*
17 *made available for expenditure by the Foundation under*
18 *authority of this Act shall be used to make payments under*
19 *any scholarship or fellowship to any individual unless there*
20 *is on file with the Foundation an affidavit executed by such*
21 *individual that he does not believe in, and is not a member*
22 *of and does not support any organization that believes in*
23 *or teaches, the overthrow of the United States Government*
24 *by force or violence or by any illegal or unconstitutional*

1 *methods. The provisions of section 1001 of title 18, United*
2 *States Code, shall be applicable in respect of such affidavits.*

3 GENERAL AUTHORITY OF FOUNDATION

4 SEC. 11. The Foundation shall have the authority,
5 within the limits of available appropriations, to do all things
6 necessary to carry out the provisions of this Act, including,
7 but without being limited thereto, the authority—

8 (a) to prescribe such rules and regulations as
9 it deems necessary governing the manner of its opera-
10 tions and its organization and personnel;

11 (b) to make such expenditures as may be necessary
12 for administering the provisions of this Act;

13 (c) to enter into contracts or other arrangements,
14 or modifications thereof, for the carrying on, by organ-
15 izations or individuals in the United States and foreign
16 countries, including other government agencies of the
17 United States and of foreign countries, of such basic
18 scientific research activities and such scientific research
19 activities in connection with matters relating to the
20 national defense as the Foundation deems necessary to
21 carry out the purposes of this Act, and, when deemed
22 appropriate by the Foundation, such contracts or other
23 arrangements, or modifications thereof, may be entered
24 into without legal consideration, without performance

1 or other bonds, and without regard to section 3709 of
2 the Revised Statutes;

3 (d) to make advance, progress, and other pay-
4 ments which relate to scientific research without regard
5 to the provisions of section 3648 of the Revised Statutes
6 (31 U. S. C., sec. 529) ;

7 (e) to acquire by purchase, lease, loan, or gift,
8 and to hold and dispose of by sale, lease, or loan, real
9 and personal property of all kinds necessary for, or
10 resulting from, the exercise of authority granted by this
11 Act;

12 (f) to receive and use funds donated by others,
13 if such funds are donated, without restriction, other than
14 that they be used in furtherance of one or more of the
15 general purposes of the Foundation;

16 (g) to publish or arrange for the publication of
17 scientific and technical information so as to further
18 the full dissemination of information of scientific value
19 consistent with the national interest, without regard to
20 the provisions of section 87 of the Act of January 12,
21 1895 (28 Stat. 622), and section 11 of the Act of
22 March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111) ;

23 (h) to accept and utilize the services of voluntary
24 and uncompensated personnel and to provide transpor-
25 tation and subsistence as authorized by section 5 of

1 the Act of August 2, 1946 (5 U. S. C. 73b-2) for per-
2 sons serving without compensation; and

3 (i) to prescribe, with the approval of the Comp-
4 troller General of the United States, the extent to which
5 vouchers for funds expended under contracts for scien-
6 tific research shall be subject to itemization or substan-
7 tiation prior to payment, without regard to the limita-
8 tions of other laws relating to the expenditure of public
9 funds and accounting therefor.

10

PATENT RIGHTS

11

SEC. 12. (a) Each contract or other arrangement exe-
12 cuted pursuant to this Act which relates to scientific research
13 shall contain provisions governing the disposition of inven-
14 tions produced thereunder in a manner calculated to protect
15 the public interest and the equities of the individual or organ-
16 ization with which the contract or other arrangement is
17 executed: *Provided, however,* That nothing in this Act shall
18 be construed to authorize the Foundation to enter into any
19 contractual or other arrangement inconsistent with any
20 provision of law affecting the issuance or use of patents.

21

(b) No officer or employee of the Foundation shall
22 acquire, retain, or transfer any rights, under the patent laws
23 of the United States or otherwise, in any invention which
24 he may make or produce in connection with performing his
25 assigned activities and which is directly related to the subject

1 matter thereof: *Provided, however,* That this subsection
2 shall not be construed to prevent any officer or employee of
3 the Foundation from executing any application for patent
4 on any such invention for the purpose of assigning the same
5 to the Government or its nominee in accordance with such
6 rules and regulations as the Director may establish.

7 INTERNATIONAL COOPERATION AND COORDINATION WITH
8 FOREIGN POLICY

9 SEC. 13. (a) The Foundation is hereby authorized to
10 cooperate in any international scientific research activities
11 consistent with the purposes of this Act and to expend for
12 such international scientific research activities such sums
13 within the limit of appropriated funds as the Foundation may
14 deem desirable. The Director, with the approval of the
15 Executive Committee, may defray the expenses of repre-
16 sentatives of Government agencies and other organizations
17 and of individual scientists to accredited international scien-
18 tific congresses and meetings whenever he deems it necessary
19 in the promotion of the objectives of this Act.

20 (b) (1) The authority to enter into contracts or other
21 arrangements with organizations or individuals in foreign
22 countries and with agencies of foreign countries, as pro-
23 vided in section 11 (c), and the authority to cooperate in
24 international scientific research activities as provided in sub-
25 section (a) of this section, shall be exercised only after

1 consultation with the Secretary of State, to the end that
2 such authority shall be exercised in such manner as is con-
3 sistent with the foreign policy objectives of the United
4 States.

5 (2) If, in the exercise of the authority referred to in
6 paragraph (1) of this subsection, negotiation with foreign
7 countries or agencies thereof becomes necessary, such nego-
8 tiation shall be carried on by the Secretary of State in
9 consultation with the Director.

10 MISCELLANEOUS PROVISIONS

11 SEC. 14. (a) The Director shall, in accordance with
12 such policies as the Executive Committee shall from time
13 to time prescribe, appoint and fix the compensation of such
14 personnel as may be necessary to carry out the provisions
15 of this Act. Such appointments shall be made and such
16 compensation shall be fixed in accordance with the pro-
17 visions of the civil-service laws and regulations and the
18 Classification Act of 1923, as amended: *Provided*, That
19 the Director may, in accordance with such policies as
20 the Executive Committee shall from time to time prescribe,
21 employ such technical and professional personnel and fix
22 their compensation, without regard to such laws, as he may
23 deem necessary for the discharge of the responsibilities of
24 the Foundation under this Act. The Deputy Director
25 hereinafter provided for, and the members of the divisional

1 committees and special commissions, shall be appointed with-
2 out regard to the civil-service laws or regulations. Neither
3 the Director nor the Deputy Director shall engage in any
4 other business, vocation, or employment than that of serving
5 as such Director or Deputy Director, as the case may be;
6 nor shall the Director or Deputy Director, except with the
7 approval of the Executive Committee, hold any office in, or
8 act in any capacity for, any organization, agency, or institu-
9 tion with which the Foundation makes any contract or other
10 arrangement under this Act.

11 (b) The Director may appoint, with the approval of
12 the Executive Committee, a Deputy Director who shall per-
13 form such functions as the Director, with the approval of
14 the Executive Committee, may prescribe and shall be Acting
15 Director during the absence or disability of the Director or
16 in the event of a vacancy in the Office of the Director.

17 (c) The Foundation shall not, itself, operate any labora-
18 tories or pilot plants.

19 (d) The members of the Board, and the members
20 of each divisional committee, or special commission, shall
21 receive compensation at the rate of \$25 for each day engaged
22 in the business of the Foundation pursuant to authorization
23 of the Foundation, and shall be allowed travel expenses as
24 authorized by section 5 of the Act of August 2, 1946 (5
25 U. S. C. 73b-2).

1 (e) Persons holding other offices in the executive branch
2 of the Federal Government may serve as members of the
3 divisional committees and special commissions, but they shall
4 not receive remuneration for their services as such members
5 during any period for which they receive compensation for
6 their services in such other offices.

7 (f) Service of an individual as a member of the Board,
8 of a divisional committee, or of a special commission shall not
9 be considered as service bringing him within the provisions
10 of section 281, 283, or 284 of title 18 of the United States
11 Code or section 190 of the Revised Statutes (5 U. S. C.
12 sec. 99), unless the act of such individual, which by such
13 section is made unlawful when performed by an individual
14 referred to in such section, is with respect to any particular
15 matter which directly involves the Foundation or in which
16 the Foundation is directly interested.

17 (g) In making contracts or other arrangements for
18 scientific research, the Foundation shall utilize appropria-
19 tions available therefor in such manner as will in its discre-
20 tion best realize the objectives of (1) having the work
21 performed by organizations, agencies, and institutions, or
22 individuals in the United States or foreign countries, includ-
23 ing Government agencies of the United States and of foreign
24 countries, qualified by training and experience to achieve the
25 results desired, (2) strengthening the research staff of organ-

1 izations, particularly nonprofit organizations, in the States,
2 Territories, possessions, and the District of Columbia, (3)
3 aiding institutions, agencies, or organizations which, if aided,
4 will advance basic research, and (4) encouraging independ-
5 ent basic research by individuals.

6 ~~(h)~~ The activities of the Foundation shall be con-
7 strued as supplementing and not superseding, curtailing, or
8 limiting any of the functions or activities of other Govern-
9 ment agencies authorized to engage in scientific research or
10 development.

11 ~~(i)~~ (h) Funds available to any department or agency of
12 the Government for scientific or technical research, or the
13 provision of facilities therefor, shall be available for transfer,
14 with the approval of the head of the department or agency
15 involved, in whole or in part, to the Foundation for such use
16 as is consistent with the purposes for which such funds were
17 provided, and funds so transferred shall be expendable by
18 the Foundation for the purposes for which the transfer was
19 made, and, until such time as an appropriation is made avail-
20 able directly to the Foundation, for general administrative
21 expenses of the Foundation without regard to limitations
22 otherwise applicable to such funds.

23 ~~(j)~~ (i) The National Roster of Scientific and Specialized
24 Personnel shall be transferred from the United States Em-
25 ployment Service to the Foundation, together with such rec-

1 ords and property as have been utilized or are available for
 2 use in the administration of such roster as may be deter-
 3 mined by the Director of the Bureau of the Budget. The
 4 transfer provided for in this subsection shall take effect at
 5 such time or times as the Director of the Bureau of the
 6 Budget shall direct.

7 ~~(k)~~ (j) The Foundation shall not support any research or
 8 development activity in the field of atomic energy, nor shall
 9 it exercise any authority pursuant to section 11 (e) in
 10 respect to that field, without first having obtained the con-
 11 currence of the Atomic Energy Commission that such activ-
 12 ity will not adversely affect the common defense and secu-
 13 rity. Nothing in this Act shall supersede or modify any
 14 provision of the Atomic Energy Act of 1946.

15 ~~(l)~~ (k) The Executive Committee, after consultation
 16 with the Secretary of Defense, shall establish regulations and
 17 procedures for the security classification of information or
 18 property (having military significance) in connection with
 19 scientific research under this Act, and for the proper safe-
 20 guarding of any information or property so classified.

21

APPROPRIATIONS

22 SEC. 15. (a) To enable the Foundation to carry out
 23 its powers and duties, there is hereby authorized to be
 24 appropriated annually to the Foundation, out of any money
 25 in the Treasury not otherwise appropriated, such sums as

1 may be necessary to carry out the provisions of this Act.
2 (b) Appropriations made pursuant to the authority pro-
3 vided in subsection (a) of this section shall remain available
4 for obligation, for expenditure, or for obligation and expendi-
5 ture, for such period or periods as may be specified in the
6 Acts making such appropriations.

81ST CONGRESS
1ST Session

H. R. 4846

[Report No. 796]

A BILL

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

By Mr. PRIEST

MAY 24, 1949

Referred to the Committee on Interstate and Foreign
Commerce

JUNE 14, 1949

Reported with amendments, committed to the Committee of the Whole House on the State of the Union, and ordered to be printed

House of Representatives

MONDAY, FEBRUARY 27, 1950

The House met at 12 o'clock noon.

The Chaplain, Rev. Bernard Braskamp, D. D., offered the following prayer:

O Thou eternal God, grant us this day a vital and vivid experience of Thy presence and power as we address ourselves to responsibilities which are far beyond our own wisdom and strength.

May all our desires and decisions be a clear and commanding witness that we are striving to manifest the splendor and preserve the continuity of the Master's ideals and principles.

Give us the courage to believe that His kingdom of righteousness and peace, which we are called upon to seek and establish, is emerging and that the day is dawning when our quest will be a conquest and our hope a blessed reality.

Hear us in His name. Amen.

THE JOURNAL

The Journal of the proceedings of Thursday, February 23, 1950, was read and approved.

MESSAGE FROM THE SENATE

A message from the Senate, by Mr. McDaniel, its enrolling clerk, announced that the Senate agrees to the amendments of the House to a bill of the Senate of the following title:

S. 3238. An act to increase the number of examiners in chief in the Patent Office, and for other purposes.

The message also announced that the Senate insists upon its amendments to the bill (H. R. 4406) entitled "An act to provide for the settlement of certain claims of the Government of the United States on its own behalf and on behalf of American nationals against foreign governments," disagreed to by the House; agrees to the conference asked by the House on the disagreeing votes of the two Houses thereon, and appoints Mr. GREEN, Mr. McMAHON, Mr. FULBRIGHT, Mr. WILEY, and Mr. HICKENLOOPER to be the conferees on the part of the Senate.

The message also announced that the Vice President has appointed Mr. JOHNSTON of South Carolina and Mr. LANGER members of the joint select committee on the part of the Senate, as provided for in the act of August 5, 1939, entitled "An act to provide for the disposition of certain records of the United States Government," for the disposition of executive papers referred to in the report of the Archivist of the United States, numbered 50-16.

NATIONAL SCIENCE FOUNDATION

Mr. CROSSER. Mr. Speaker, pursuant to the provisions of rule XI (2) (C), I call up House Resolution 321, which has remained in the Committee on Rules for more than 21 days without being reported.

The Clerk read the resolution, as follows:

Resolved, That immediately upon the adoption of this resolution it shall be in order to move that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H. R. 4846) to promote the progress of science; to advance the public health, prosperity, and welfare; to secure the national defense; and for other purposes. That after general debate, which shall be confined to the bill and continue not to exceed 2 hours, to be equally divided and controlled by the chairman and ranking minority member of the Committee on Interstate and Foreign Commerce, the bill shall be read for amendment under the 5-minute rule. At the conclusion of the consideration of the bill for amendment, the Committee shall rise and report the bill to the House with such amendments as may have been adopted and the previous question shall be considered as ordered on the bill and amendments thereto to final passage without intervening motion except one motion to recommit.

CALL OF THE HOUSE

Mr. ARENDS. Mr. Speaker, I make the point of order that a quorum is not present.

The SPEAKER. Evidently a quorum is not present.

Mr. McCORMACK. Mr. Speaker, I move a call of the House.

A call of the House was ordered.

The Clerk called the roll, and the following Members failed to answer to their names:

[Roll No. 67]

Allen, La.	Hall,	Murphy
Bailey	Leonard W.	Murray, Wis.
Barden	Halleck	Nixon
Boggs, Del.	Hand	O'Brien, Mich.
Brooks	Hart	O'Toole
Buckley, N. Y.	Havener	Pace
Bulwinkle	Hays, Ohio	Pfeiffer,
Burton	Hedrick	Joseph L.
Byrnes, Wis.	Heffernan	Pfeiffer,
Canfield	Heller	William L.
Carlyle	Herlong	Phillips, Calif.
Carroll	Hill	Poage
Case, S. Dak.	Hoffman, Ill.	Powell
Chatham	Holifield	Redden
Chudoff	Jackson, Calif.	Regan
Corbett	Javits	Roosevelt
Coudert	Jenison	Sadlak
Davies, N. Y.	Jones, N. C.	Sadowski
Davis, Tenn.	Judd	St. George
Dawson	Kelley, Pa.	Secrest
Dingell	Kennedy	Shafer
Dollinger	Keogh	Shelley
Donohue	Klein	Sheppard
Douglas	Kunkel	Smathers
Engle, Calif.	Latham	Smith, Ohio
Feighan	Lesinski	Taylor
Gamble	Lichtenwalter	Walsh
Gilmer	McGrath	Whitaker
Golden	McGuire	White, Idaho
Goodwin	Marcantonio	Widnall
Granahan	Morgan	Woodhouse
Green	Morrison	Yates
Gwinn	Multer	

The SPEAKER. On this roll call 327 Members have answered to their names, a quorum.

By unanimous consent, further proceedings under the call were dispensed with.

NATIONAL SCIENCE FOUNDATION

[Mr. CROSSER addressed the House. His remarks will appear hereafter in the Appendix.]

Mr. WOLVERTON. Mr. Speaker, there is no legislation that has been, or will be, passed by the present Congress that is more important or far reaching in its scope and possibility of enhancing the welfare of our Nation and its people than the bill now under consideration, H. R. 4846, entitled "A bill to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes." It is generally known as the National Science Foundation Act.

This legislation has been thoroughly studied by both Houses of Congress over the past 5 years. I think most of the Members are familiar with the purpose of the legislation and the provisions of the bill. However, there are many new Members in the House who have not had the opportunity to hear the discussions that have taken place on previous occasions. I trust that what is now said will be helpful to them, as well as refresh the minds of those who have heard previous discussions.

The Congress has long been aware of the need for legislation of this type. It is my considered opinion that a National Science Foundation is more essential to the health, education, industrial progress, and security of the Nation today than it was 5 years ago when Dr. Vannevar Bush, then Director of the Office of Scientific Research and Development, and his aide, Mr. John H. Teeter, discussed the problem with a small group in June 1945. It was my privilege to be one of that group. We gathered together one evening and heard Dr. Bush review his report to the President known as Science, the Endless Frontier. This document has been the basis of the National Science Foundation legislation in the ensuing years.

The history of this legislation actually begins in November 1941 when President Roosevelt wrote a letter to Dr. Vannevar Bush, Director of the wartime Office of Scientific Research and Development, asking him to prepare for him a report on a postwar science program. President Roosevelt, however, had passed away when the report was finished in June 1945.

When, in September of 1945, President Truman called Congress into special session to enact a 21-point postwar domestic program, one of the points urged the establishment of a single Federal research agency. Following the President's request, hearings were begun in both Senate and House on the various Science Foundation bills which were introduced.

In the following year, the Senate committee reported out S. 1850, which would have made extensive changes in the patent laws of the United States with respect to inventions made with the financial support of the Federal Government. The bill also would have placed considerable control in the President of the United States.

The House Committee on Interstate and Foreign Commerce late in 1946 held hearings on H. R. 6448, introduced by Representative MILLS. This was a revised version of his original Science Foundation bill.

In July 1946 the Senate passed S. 1850 by a vote of 48 to 18. The House took no action and all bills died with the close of the Seventy-ninth Congress.

During the Eightieth Congress S. 526 was sponsored by a bipartisan group of six Senators and the House had also before it a number of Science Foundation bills. The Senate bill was passed by the Senate in May by a vote of 79 to 8.

In the House, the Committee on Interstate and Foreign Commerce, of which I then had the honor and privilege of serving as chairman, held extensive hearings, and, as a result of the hearings, H. R. 4102 was introduced by me as chairman, reported favorably by the committee, and passed by the House, its text being substituted for that of S. 526.

S. 526 and H. R. 4102 then went to conference and both Houses approved the conference report. The bill died by pocket veto. President Truman stated in a memorandum of August 6, 1948, that he had vetoed the bill with great reluctance for he was convinced of the urgent need for the establishment of a National Science Foundation, but he felt that the bill passed by Congress vested the determination of vital national policies and the expenditure of large public funds in a group of individuals who would be essentially private citizens. This, the President stated, was a marked departure from the sound principles for the administration of public affairs to which he could not give his approval.

In 1948, during the second session of the Eightieth Congress, new bills were introduced both in the Senate and in the House—S. 2385 and H. R. 6007 by me in the House. These bills were identical and constituted a compromise worked out following conferences between some Members of Congress and Presidential advisers. In May 1948 the Senate passed the new measure by a voice vote. In the House this committee held brief hearings and reported favorably H. R. 6007, which differed in a few respects from S. 2385, passed earlier by the Senate. The bill failed to reach the House floor because the Rules Committee did not grant a rule for its consideration, and therefore, the Science Foundation legislation did not materialize during the Eightieth Congress.

In the Eighty-first Congress, in the Senate, there was introduced S. 247 which is identical with S. 2385, the last Science Foundation bill passed by the Senate during the second session of the Eightieth Congress. This bill passed the Senate without amendment and in the House

was referred to the Interstate and Foreign Commerce Committee. In the House seven bills were introduced which fall into three categories. Four of these bills were identical with H. R. 6007, reported favorably by this committee during the Eightieth Congress, which differ in some respects from S. 247. These bills are H. R. 12, H. R. 185, H. R. 311, and H. R. 2751.

The second category consists of H. R. 1845 and H. R. 2308 which are in all respects identical with S. 247.

The third category consists of a single bill, H. R. 359, which differs substantially from the bills in the first two categories with respect to the organization of the foundation and patent provisions.

Although the 4-year history of proposed legislation on this subject encompasses over 1,200 pages of testimony by 150 of the Nation's leading authorities in science, education, and medicine, the committee further reviewed the legislation in public hearing, on March 31 and April 1, 4, 5, and 26, 1949. In the light of this additional information the committee modified slightly the Science Foundation bill that it reported favorably during the Eightieth Congress. As a result, a new bill, H. R. 4846, was introduced by Mr. PRIEST, chairman of the subcommittee on Public Health, Science, and Commerce. Hearings were held and the full committee approved H. R. 4846, as amended, and reported the bill favorably to the House. It is now before us for consideration. It meets the objections expressed by the President in his memorandum of August 6, 1948, with respect to S. 526, and, in form as well as content, provides a good workable law that should have the support of this House.

PURPOSES OF THE BILL

The bill provides for the establishment in the executive branch of the Government an independent agency to be known as the National Science Foundation. The Foundation shall consist of a National Science Board and a Director and is authorized and directed—

First. To develop and encourage the pursuit of a national policy for the promotion of research and education in the sciences;

Second. To initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering and other sciences, by making contracts, or other arrangements, including grants loans, and other forms of assistance;

Third. After consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense;

Fourth. To award scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

Fifth. To foster interchange of scientific information;

Sixth. To correlate the Foundation's scientific research program with those undertaken by Federal Government agencies, by individuals and by public and private research groups;

Seventh. To establish such special commissions as the board may from time

to time deem necessary for the purposes of the act; and

Eighth. To maintain a register of scientific and technical personnel.

To carry out the purposes of the Foundation the bill provides that there shall be four divisions within the Foundation, as follows:

- First. A Division of Medical Research;
- Second. A Division of Mathematical, Physical, and Engineering Sciences;
- Third. A Division of Biological Sciences; and
- Fourth. A Division of Scientific Personnel and Education.

There shall also be within the Foundation such other divisions as the Board may from time to time deem necessary.

WHAT THE ACT WILL ACCOMPLISH

The Foundation provided for in this bill is intended to aid scientists and institutions of science to contribute more rapidly and effectively to the store of knowledge and scientific principles needed as the foundation on which technological developments, industrial growth, and enhancement of the national economy rest.

It will aid in the development of medical science and thus lead to improvement in the national health.

It will aid in the development of basic sciences on which the national defense will rest in the future.

It will lead to the development of increased numbers of highly qualified scientists, engineers, physicians, dentists, and others who are essential to the accomplishments of the above-mentioned aims.

THE IMPORTANCE OF BASIC RESEARCH

The work of the Foundation is intended to relate entirely to basic scientific research in the natural sciences as distinguished from applied scientific research. The latter is merely ascertaining the ways and means to make practical use of the fundamental knowledge of natural laws resulting from basic research. Thus, basic research in electronics made possible, first, new industries: radio, television, for preater prosperity and pleasure; second, X-ray, electron microscope, and so forth, for better health; third, radar, proximity fuze, and so forth, for greater national security.

From these illustrations it can be readily seen that basic research adds to the stock pile of knowledge and understanding from which applied research obtains the fundamental information needed to make the developments which determine our progress in industry, agriculture, health, and security.

To the extent that basic research ceases or lags, applied research is diminished or stopped. It is necessary to keep up the stock pile of basic knowledge or otherwise applied research would in time exhaust the stock pile of basic knowledge and stagnate. Thus our progress in health, economic welfare, and national security depends upon the extent to which we increase our stock pile of basic scientific knowledge. Thus basic research is the pacemaker of all technological progress. As it explores new frontiers of knowledge it opens new possibilities for future progress and enjoyment of mankind.

PRESENT SITUATION AS TO BASIC RESEARCH

If time permitted a detailed study could be presented that would show the desperate need that exists today for basic research. Summarized it would show:

First. That during the war basic research was reduced in favor of applied research to such an extent that about 3 years' production of basic knowledge was lost so that our stock pile in 1947 was only what it would have been in 1944 without the war;

Second. That production of basic scientific knowledge was also greatly curtailed in Europe by the war;

Third. That, on the other hand, applied research was greatly stimulated by the war so that by 1947 annual expenditure for such research had increased to over three times that in 1940;

Fourth. That as a result of the combination of greatly increased applied research and greatly curtailed basic research, both here and abroad, our stock pile of basic knowledge has been seriously depleted, especially in certain areas;

Fifth. That there is, therefore, urgent need for doubling the amount of basic research currently being done; and

Sixth. That private enterprises and private institutions cannot be depended upon to increase basic research to the desired level.

BASIC RESEARCH IN OTHER COUNTRIES

In the past this country has depended largely on basic knowledge imported from other countries and has done less than its share of basic research. From Europe we imported most of the fundamental laws and discoveries in physics and chemistry upon which our technological progress during the nineteenth century and later has been based. Even such recent developments as the revolutionary sulfa drugs, penicillin, atabrine, and DDT had their beginnings in German, English, or Swiss laboratories; and the discovery of nuclear fission which enabled us to develop the atomic bomb was made in Germany.

The war greatly changed the situation in most European countries. Many of their laboratories were wrecked, many of their scientists were killed or dispersed, and they were impoverished. It will take years for these countries to restore basic research to the prewar level; moreover, results obtained in countries behind the iron curtain will largely not be available to us. Evidently, we can no longer depend upon Europe as the major source of new basic scientific knowledge.

SHORTAGE OF BASIC KNOWLEDGE

The increased amount of applied research since 1940 and the curtailed amount of basic research, strongly suggest that our stock pile of basic knowledge has been seriously depleted as a result of the war but do not prove that this is true. As direct evidence that important applied research is now hampered by a shortage of basic knowledge we have the testimony of scientists who were closely associated with Government research during the war and are thoroughly familiar with the present research situation.

Vannevar Bush writes:

The tremendous effort in applied research exerted during the war has in many fields pushed the application of fundamental knowledge to the limit of that knowledge.

Karl T. Compton, as Chairman of the Research and Development Board of the National Military Establishment, wrote that the Board more and more often meets problems the solution of which is retarded or temporarily prevented by lack of basic knowledge, and that this is true also in the research activities of other Government agencies and of industry. "We have literally exhausted the stock pile of fundamental knowledge in many fields," he testified. According to Harry P. Hammond, a man from a very important laboratory at Wright Field stated that they were stalled in their attack on certain problems because of lack of basic knowledge. "We have seriously drained our storehouse of basic knowledge."

Lessons learned during the war period point clearly to the need for an appropriately constituted agency of the Government, to function in time of peace or war, to promote and foster fundamental research in the sciences which is not likely to be carried on privately because of the size and difficulty of the problems and because of lack of immediate promise of commercial value.

The committee is deeply impressed by the fact that while the United States has been for many years and still is eminent in the fields of applied research and engineering development, it does not occupy a comparable prominent position in the field of fundamental or pure research. Dr. Vannevar Bush, the wartime head of the Office of Scientific Research and Development, in his final report entitled "Science: The Endless Frontier," states as follows:

Our national preeminence in the fields of applied research and technology should not blind us to the truth that, with respect to pure research—the discovery of fundamental new knowledge and basic scientific principles—America has occupied a secondary place. Our spectacular development of the automobile, the airplane, and radio obscures the fact that they were all based on fundamental discoveries made in nineteenth century Europe. From Europe also came formulation of most of the laws governing the transformation of energy, the physical and chemical structure of matter, the behavior of electricity, light, and magnetism. In recent years the United States has made progress in the field of pure science, but an examination of the relevant statistics suggests that our efforts in the field of applied science have increased much faster so that the proportion of pure to applied research continues to decrease.

Several reasons make it imperative to increase pure research at this stage in our history. First, the intellectual banks of continental Europe, from which we formerly borrowed, have become bankrupt through the ravages of war. No longer can we count upon those sources for fundamental science. Second, in this modern age, more than ever before, pure research is the pacemaker of technological progress. In the nineteenth century Yankee mechanical ingenuity, building upon the basic discoveries of European science, could greatly advance the technical arts. Today the situation is different. Future progress will be most striking in those

highly complex fields—electronics, aerodynamics, chemistry—which are based directly upon the foundation of modern science. In the next generation technological advance and basic scientific discovery will be inseparable; a nation which borrows its basic knowledge will be hopelessly handicapped in the race for innovation. The other world powers, we know, intend to foster scientific research in the future.

The field of pure or basis research has traditionally been left to institutions of higher learning. Private sources of support for these institutions have not kept step with the increased need for basic research.

I urgently recommend the prompt enactment of this legislation. Nearly 5 years have passed since the activities of the Office of Scientific Research and Development, the proposed Foundation's wartime predecessor, was terminated. The need to establish a National Science Foundation is today more urgent than ever. No nation can long maintain its leadership without constantly renewing its fund of basic scientific knowledge and its supply of scientifically trained manpower. The Nation's preeminence in applied science remains unquestioned, but we have seriously drained our storehouse of basic knowledge. Our national health, prosperity, and welfare, and, indeed, our national defense, are dependent on pushing forward the frontiers of basic science.

It is my sincere belief that few pieces of legislation have received more careful study and scrutiny than has been the case with respect to the science foundation bill. The need for this legislation has not been seriously questioned in these 4 years of study and scrutiny.

Mr. Speaker, I urge the House to act favorably and promptly on this bill to create the National Science Foundation. I do so because of the firm belief that it will promote the welfare of our citizens and our security as a Nation in an age where science, both in peace and war, takes on an importance that cannot and must not be ignored.

THOSE WHO SUPPORT THE BILL

There is nothing that emphasizes more forcibly the need for scientific research of the kind contemplated by the provision of the bill than the great number of national associations of scientists, engineers, physicians, educational institutions, labor, manufacturers, and others, a partial list which is as follows:

SCIENTIFIC ORGANIZATIONS

American Association for the Advancement of Science, represented by Dr. C. F. Kettering, president; Dr. F. R. Moulton, permanent secretary; and Dr. Howard A. Meyerhoff, secretary.

American Documentation Institute, Dr. Watson Davis, president.

Association of Oak Ridge Scientists (Manhattan project), Dr. H. J. Curtis.

Association of Los Alamos Scientists (Manhattan project), Dr. Robert Wilson.

American Council of Learned Societies, Dr. Mortimer Graves.

American Chemical Society, Col. Bradley Dewey, president-elect.

Engineers Joint Council (representing the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of

Mechanical Engineers, the American Institute of Electrical Engineers, and the American Institute of Chemical Engineers), Dr. Boris Bakhmeteff.

National Research Council, Division of Biology and Agriculture, Dr. Robert Griggs. American Biological Society and Union of Biological Sciences, Dr. C. V. Taylor.

Ecological Society of America, Alfred O. Redfield, president.

Society of American Bacteriologists.

Mycological Society of America, Dr. Frank D. Kern, president.

American Medical Association, Dr. Morris Fishbein, secretary.

American Council on Rheumatic Fever, American Heart Association, Dr. David D. Rutstein.

Physician Forum, Dr. Henry B. Richardson.

American Pharmaceutical Association, Dr. Robert P. Fischell.

American Osteopathic Association, Dr. J. S. Denslow.

EDUCATIONAL AND RESEARCH INSTITUTIONS

American Council on Education, Dr. George F. Zook, president.

Guggenheim Foundation, Dr. Henry Allen Moe, secretary-general.

Association of Land Grant Colleges and Universities.

Engineers Council for Professional Development.

American Society for Engineering Education.

OTHER NATIONAL ORGANIZATIONS

Congress of Industrial Organizations, Philip Murray, president.

National Association of Manufacturers, R. J. Dearborn, chairman of committee on patents.

American Federation of Labor, Lewis G. Hines, legislative representative.

National Farmers' Union, Russell Smith, legislative secretary.

American Veterans' Committee, Capt. Orville Freeman.

Disabled American Veterans, Dr. Harry Malisoff.

GOVERNMENT OFFICIALS

(The official position held by the individual at the time his testimony was given is listed)

Vannevar Bush, president of the Carnegie Institution of Washington and wartime Director of the Office of Scientific Research and Development.

Gen. H. H. Arnold, Army Air Forces.

Karl T. Compton, chairman, Research and Development Board (representing the National Military Establishment).

Maurice J. Tobin, Secretary of Labor.

John Studebaker, United States Commissioner of Education.

Vice Adm. Ross T. McIntire, Surgeon General, Navy Department.

Maj. Gen. Norman T. Kirk, Surgeon General, United States Army.

Carroll L. Wilson, general manager, Atomic Energy Commission.

Charles F. Brannan, secretary, Department of Agriculture.

Robert P. Patterson, Secretary of War.

James V. Forrestal, Secretary of the Navy.

Dr. J. C. Hunsaker, chairman, National Advisory Committee for Aeronautics.

Harold D. Smith, director, Bureau of the Budget.

James E. Webb, director, Bureau of the Budget.

Maury Maverick, chairman, Smaller War Plants Corporation.

Paul A. Porter, chairman, Federal Communications Commission.

Casper W. Ooms, Commissioner of Patents.

A. N. Richards, Chairman of the Committee on Medical Research, Office of Scientific Research and Development.

Watson B. Miller, Federal Security Administrator.

Sumner T. Pike, acting chairman, Atomic Energy Commission.

Oscar L. Chapman, Under Secretary of the Interior.

J. Donald Kingsley, acting administrator, Federal Security Agency.

Ernest A. Gross, assistant secretary (for the Secretary of State).

OUTSTANDING CITIZENS AND SCIENTISTS

(Institutions listed as of the date of testimony before congressional committee)

Bernard M. Baruch.

Dr. Harold C. Urey, University of Chicago.

Dr. E. G. Nourse, vice president, Brookings Institution.

Dr. Irving Langmuir, associate director, General Electric Laboratories.

Ralph McDonald, executive secretary, National Education Association.

James Bryant Conant, president, Harvard University.

Robert E. Doherty, president, Carnegie Institute of Technology.

Charles E. MacQuigg, Engineering College Research Association, dean of engineering, the Ohio State University, past president American Society for Engineering Education.

A. A. Potter, executive director, Patent Planning Commission, dean of engineering, Purdue University, past president, American Society for Engineering Education, American Society of Mechanical Engineers, American Engineering Council.

Roger Adams, chairman, board of directors, American Chemical Society.

H. P. Hammond, dean, School of Engineering, the Pennsylvania State College, past president, American Society for Engineering Education.

Thorndike Saville, dean, College of Engineering, New York University, president, American Society for Engineering Education.

Dr. R. J. Oppenheimer, director, New Mexico Laboratories, Manhattan project.

Dr. L. A. DuBridge, director, Radiation Laboratory, Massachusetts Institute of Technology.

Bruce K. Brown, vice president in charge of development, Standard Oil Company (Indiana).

Edwin H. Land, president and director of research, Polaroid Corp.

R. E. Gillmor, Aircraft Industries Association; president, Sperry Gyroscope Co.

Dr. Henry DeW. Smyth, chairman, department of physics, Princeton University.

Dr. I. I. Rabi, Columbia Radiation Laboratory, Columbia University.

Dr. Abel Wolman, professor of sanitary engineering, Johns Hopkins University.

Dr. Walter Rautenstrauch, professor of industrial engineering, Columbia University.

Dr. Edmund E. Day, president, Cornell University.

Dr. John M. Potter, president, Hobart and William Smith College.

Dr. Louis H. Weed, National Academy of Sciences.

Dr. A. N. Richards, chairman, Committee on Medical Research, Office of Scientific Research and Development.

Dr. Francis G. Blake, dean, Yale School of Medicine.

Rev. J. C. S. O'Donnell, president, Notre Dame University.

Dr. L. C. Dunn, chairman, Department of Zoology, Columbia University.

Dr. D. W. Bronk, director, Johnson Research Foundation, University of Pennsylvania (later president of Johns Hopkins University).

Dr. Edmund W. Sinnott, director, Sheffield Scientific School, Yale University.

Dr. W. M. Stanley, Rockefeller Institute for Medical Research.

Dr. Raymond Zirkle, director, Institute of Radiobiology and Biophysics, University of Chicago.

Philip R. White, associate, Rockefeller Institute for Medical Research.

Leonard Carmicel, president, Tufts College, former director, Roster of Scientific and Specialized Personnel.

Ewing Cockrell, United States Federation of Justice.

John T. Cox, Jr., American Institute of Chemical Engineers, Engineers Joint Council.

George E. Folk, National Association of Manufacturers.

Dael Wolfe, secretary, Intersociety Committee for a National Science Foundation.

M. H. Trytten, director, Office of Scientific Personnel, National Research Council.

Sidney D. Kirkpatrick, editor, Chemical Engineering, on behalf of the Associated Business Papers and the National Conference of Business Paper Editors.

Carl D. Anderson, Nobel laureate; professor of physics, California Institute of Technology.

A. G. Christie, past president, American Society of Mechanical Engineers; professor of mechanical engineering, the Johns Hopkins University.

Paul R. Elicker, executive secretary, National Association of Secondary School Principals.

F. Malcolm Farmer, fellow and past president, American Institute of Electrical Engineers.

Walter S. Rogers, director, Institute of Current World Affairs.

Robert L. Stearns, president, University of Colorado.

E. H. Volwiler, director of research, Abbott Laboratories.

Warren Weaver, director, The National Sciences, Rockefeller Foundation.

Robert E. Wilson, chairman of board, Standard Oil Co. of Indiana.

John H. Teeter, representing the American Cancer Society.

R. G. Gustavson, chancellor, University of Nebraska.

Dr. Hugh Wolfe, professor of physics, New York City College, Federation of American Scientists.

The above is an imposing list of individuals and organizations, leaders in their respective fields of activity, favorable to this legislation. I know of no one of similar character and standing opposed to this legislation. This legislation represents as near as any legislation can ever represent a unanimous opinion upon the part of those qualified to speak on this important matter. The bill is entitled to the support of this House. I earnestly and sincerely ask that you give it your support as a great forward step that will promote the welfare of our citizens and the security of our Nation.

CALL OF THE HOUSE

Mr. RICH. Mr. Speaker, I make the point of order that a quorum is not present.

The SPEAKER. Obviously a quorum is not present.

Mr. McCORMACK. Mr. Speaker, I move a call of the House.

A call of the House was ordered. The Clerk called the roll, and the following Members failed to answer to their names:

[Roll No. 68]

Allen, La.	Burton	Davis, Tenn.
Andresen	Canfield	Dawson
August H.	Carlyle	DeGraffenried
Bailey	Carroll	Dollinger
Barden	Chatham	Donohue
Blatnik	Chudoff	Douglas
Boggs, Del.	Corbett	Engle, Calif.
Brooks	Coudert	Feighan
Buckley, N. Y.	Crawford	Fugate
Bulwinkle	Davies, N. Y.	Gamble

Gilmer	Klein	Ramsay
Golden	Kunkel	Redden
Goodwin	Latham	Regan
Green	Lichtenwalter	Rogers, Fla.
Gwinn	McCulloch	Roosevelt
Hall,	McGrath	Sadiak
Leonard W.	McGuire	Sadowski
Halleck	Marcanonio	St. George
Hand	Monroney	Saylor
Hart	Morgan	Secrest
Harvey	Morris	Shafer
Hébert	Morrison	Shelley
Hedrick	Multer	Short
Heffernan	Murphy	Smathers
Heller	Murray, Wis.	Smith, Ohio
Herlong	O'Brien, Mich.	Smith, Wis.
Hill	O'Toole	Steed
Hinshaw	Pace	Stigler
Hoffman, Ill.	Pfeifer	Taylor
Jackson, Calif.	Joseph L.	Walsh
Javits	Pfeifer	Whitaker
Jenison	William L.	Wickersham
Jones, N. C.	Phillips, Calif.	Widnall
Kelley, Pa.	Poage	Withrow
Kennedy	Potter	Yates
Keogh	Powell	Young

The SPEAKER. On this roll call 323 Members have answered to their names, a quorum.

By unanimous consent, further proceedings under the call were dispensed with.

EXTENSION OF REMARKS

Mr. LANE asked and was given permission to extend his remarks in the Appendix of the RECORD in three separate instances and in each to include extraneous matter.

Mr. McDONOUGH asked and was given permission to extend his remarks in the RECORD and include an editorial from the Hollywood Citizen-News.

Mr. HOFFMAN of Michigan asked and was given permission to extend his remarks in the RECORD and include extraneous matter.

Mr. MASON asked and was given permission to extend his remarks in the RECORD.

INTERNATIONAL CLAIMS SETTLEMENT

Mr. KEE. Mr. Speaker, I ask unanimous consent that I may have until midnight to file a conference report on the bill (H. R. 4406) the International Claims Settlement Act of 1949.

The SPEAKER. Is there objection to the request of the gentleman from West Virginia?

There was no objection.

Mr. KEE submitted the following conference report and statement:

CONFERENCE REPORT

The committee of conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 4406) to provide for the settlement of certain claims of the Government of the United States on its own behalf and on behalf of American nationals against foreign governments, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its amendment numbered 1.

That the House recede from its disagreement to the amendments of the Senate numbered 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15, and agree to the same.

JOHN KEE,
JAMES P. RICHARDS,
ABRAHAM A. RIBICOFF,
CHARLES A. EATON,

Managers on the Part of the House.

THEODORE FRANCIS GREEN,
BRIEN McMAHON,
J. W. FULBRIGHT,
BOURKE B. HICKENLOOPER,

Managers on the Part of the Senate.

STATEMENT

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendments of the Senate to the bill (H. R. 4406) to provide for the settlement of certain claims of the Government of the United States on its own behalf and on behalf of American nationals against foreign governments, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The Senate amended the House bill in 15 particulars. Only five of these involved matters of substance. Four of these substantial differences were resolved in favor of the Senate version. The fifth, an amendment adopted by the Senate to section 2 (c), was resolved in favor of the House. As to this amendment; the Senate receded and accepted the House version of the section. The specific points of difference between the version as agreed upon by the committee of conference and the version of the bill passed by the House are as follows:

Section 3 (a) of the bill as passed by the House would make the three members of the International Claims Commission of the United States subject to appointment by the Secretary of State. The conference bill makes them subject to Presidential appointment with senatorial confirmation.

Section 3 (a) of the House version would also require that the members of the Commission be members of the bar. The conference version eliminates this requirement.

Section 3 (c) of the House version would authorize the Secretary of State to fix a termination date for the Commission's tenure. The conference bill vests this authority in the President.

Section 4 (j) of the House version would require the Commission to comply with the provisions of the Administrative Procedures Act of 1946. The conference version adds a qualification in the words "except as otherwise specifically provided by this act."

JOHN KEE,
JAMES P. RICHARDS,
ABRAHAM A. RIBICOFF,
CHARLES A. EATON,

Managers on the Part of the House.

NATIONAL SCIENCE FOUNDATION

Mr. CROSSER. Mr. Speaker, I move the previous question on the resolution.

The previous question was ordered.

The resolution was agreed to.

Mr. CROSSER. Mr. Speaker, I move that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H. R. 4846) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The motion was agreed to.

Accordingly the House resolved itself into the Committee of the Whole House on the State of the Union for the consideration of the bill, H. R. 4846, the National Science Foundation Act of 1949, with Mr. THOMPSON in the chair.

The Clerk read the title of the bill.

By unanimous consent, the first reading of the bill was dispensed with.

The CHAIRMAN. Under the rule, the gentleman from Ohio [Mr. CROSSER] will be recognized for 1 hour and the gentleman from New Jersey [Mr. WOLVERTON] for 1 hour.

The gentleman from Ohio is recognized.

Mr. CROSSER. Mr. Chairman, I yield 10 minutes to the gentleman from Tennessee [Mr. PRIEST].

Mr. PRIEST. Mr. Chairman, I believe that in the discussion of the rule the chairman of the committee and the ranking minority member have given very excellent and complete statements on the background to this legislation. In reality we may say that this legislation started with the founding of the Republic, for George Washington, very early after he was inaugurated as the first President of the United States asked Dr. Benjamin Brush of Pennsylvania, if he did not believe, in the interest of the promotion of science for the Republic, that there should be established a University of the United States.

I shall not at this time attempt to trace down through the years since that period the development of this idea. The background for the present legislation has been very well developed by the gentleman from Ohio [Mr. CROSSER], and the gentleman from New Jersey [Mr. WOLVERTON].

I do want to call attention to the fact that this legislation, in very much the same form as the bill now before you, was passed by the Eightieth Congress. That bill, as you know, was vetoed or, rather, it suffered a pocket veto, largely because of an administrative feature of the bill which the President found to be undesirable.

Let me briefly mention this administrative provision. In the bill passed by the Eightieth Congress provision was made that the director of this Foundation should be selected by the Foundation itself. This director, of course, would have considerable responsibility in the disbursing of public funds, whatever public funds might be made available for carrying out the work of the Foundation. He was not to be confirmed by the Senate. The President felt that from the standpoint of good administration the director of such a Foundation and with such responsibilities should be appointed by the President and confirmed by the Senate. Very reluctantly he allowed the bill to suffer a pocket veto because of that administrative provision.

Following the death of that bill by pocket veto a number of conferences were held. The distinguished gentleman from New Jersey [Mr. WOLVERTON] attended a great many of these conferences, in which discussions were held with the top-bracket scientists of the country and with members of the Senate committee, the House committee, and the executive office of the President. As a result of these conferences there has been pretty general agreement as to the administrative provisions of the present bill.

The need for this legislation has been stressed by the chairman of the committee, the gentleman from Ohio [Mr. CROSSER], and by the gentleman from New Jersey [Mr. WOLVERTON]. In yesterday's New York Times I found a story with this headline: "Nation faces shortage of scientists." I shall not read the article, but it is fully in line with statements made by others who have spoken on the bill that insofar as scientists of the first rank are concerned, those with doctor's degrees and those well trained in pursuing basic research, we do face a

tremendous shortage. Some figures have been given you that in 1941 we had 2,000 scientists who received their doctor's degree in that year. We have not yet anything like approached that number since the war. The number has fallen off considerably. We have gained a few. But a recent survey indicates that it will be many years before we can reach 2,000 doctorates that were conferred in the fields of science in 1941.

Mr. Chairman, the war taught us several important lessons. One thing we learned as the result of the war was that we can no longer depend on Europe to do our basic research for us. I want to emphasize, Mr. Chairman, that the whole emphasis of this particular legislation is on basic research rather than applied research.

We have led the world, as it has been pointed out already, for generations in taking the discoveries of the laboratories, the basic discoveries, and doing something with them in applied research. But, we have lagged far behind in the question of basic research. What has been done in this country for quite a number of years prior to the war in the field of basic research largely has been done by institutions supported by private funds. I think all of us are aware of the fact that the income from private funds has dwindled to such an extent that we can no longer depend on institutions supported by private funds to do the amount of basic research that we feel the security of our country requires.

Mr. GROSS. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Iowa.

Mr. GROSS. Will the gentleman tell us why these funds have dwindled?

Mr. PRIEST. It is not necessary to belabor that point. Of course, we are all aware that income from private funds and endowments have dwindled considerably because of our present tax laws, made necessary to support the Nation, to support the Government, and to pay off a war debt that we had to make in order to remain free. I think that is the reason, and I would not belabor the point at all. I hope that answers the question.

Now, Mr. Chairman, the testimony before our committee indicates that there is likely to be a very acute shortage in the years ahead in the number of scientists who might well pursue basic research. In the remaining time I want to discuss just one or two other features in this bill that no doubt there will be some questions asked about later on.

A great many Members have asked me in the last few days "What will be the cost of this bill?" In the 1950 budget—on the belief that this bill would become legislation in time for the 1950 fiscal year budget to be effective—an estimate was made of \$2,500,000 of direct appropriations and \$12,500,000 in contract authorizations.

However, in the 1951 estimate only half a million dollars is requested by the Bureau of the Budget.

Now, as to the ultimate cost, the best estimate that anybody has been able to give on the subject of the ultimate cost

of the legislation, is that it should level off in perhaps 5 years at a maximum of about \$25,000,000 per year.

Mr. TABER. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I shall be very happy to yield to the gentleman from New York.

Mr. TABER. I wonder what would be the figure from which it would level off down to 25.

Mr. PRIEST. It would never go above. I used the words "leveling off." I intended to imply—and perhaps it was not the best phrase—that it would never go above that figure; that would be the ceiling, a maximum.

May I say also to the distinguished ranking Member of the Committee on Appropriations that in two or three particular places in the bill we have written in language that restricts any amount that can be expended to the amount of available funds so specified for such purpose in the appropriation. We did that in scholarships and in fellowships. The money is to be earmarked by the Committee on Appropriations for these particular expenditures.

The CHAIRMAN. The time of the gentleman from Tennessee has expired.

Mr. CROSSER. Mr. Chairman, I yield the gentleman five additional minutes.

Mr. WHITTINGTON. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Mississippi.

Mr. WHITTINGTON. I ask the gentleman in that connection, while you are restricting these expenditures in some respects, why it would not be well to put an over-all ceiling on this entire bill, because there is not any ceiling at all at the present time? Now, many Members are loath to vote for authorizations where the sky is the limit.

Mr. PRIEST. It has this language "such appropriations as may be necessary are hereby authorized."

Mr. WHITTINGTON. That is not any ceiling at all.

Mr. PRIEST. No, that is not a ceiling. The ceiling I give is an estimate of the cost of it. There is no ceiling on the Atomic Energy Commission, so far as I know. We do not know what the future will bring. I think it would be unwise to fix a rigid figure of any amount as a ceiling in a bill of this sort. I think the legislative history will indicate that the cost is not expected to run beyond the \$25,000,000, and always the Appropriations Committee is in charge in that respect. However, if the committee desires to limit the amount by language I shall not object.

Mr. FLOOD. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Pennsylvania.

Mr. FLOOD. I find on page 2 of the committee report, in subsection 5, under the subheading "Purpose of the bill," this language:

To foster the interchange of scientific information among scientists in the United States and foreign countries.

I am aware of patent interchanges and of the necessity for the interchange of scientific information generally. May

I ask the gentleman what is the attitude of the committee with reference to this point, or whether it was discussed?

Mr. PRIEST. Yes, I assure the gentleman it was discussed rather considerably. It was felt, I am sure, by a great majority of the committee, that such an authorization would be very helpful insofar as interchange of information with those nations with which we have amicable relations—let us put it that way—are concerned, where there might be some mutual assistance going back and forth by exchanging the information. We felt the language in the bill was entirely safe insofar as safeguarding any information that we did not want to exchange with some nation that might not be on such friendly terms.

Mr. FLOOD. On the same point, did the committee direct its attention to the so-called Fuchs incident in connection with the atomic energy expose?

Mr. PRIEST. May I say that the so-called Fuchs incident had not developed when the committee was working on this legislation. This bill was reported last August, I believe, and this incident had not developed at that time. Of course, no consideration was given to such an incident as such, but the whole general picture of the exchange of scientific information was considered by the committee.

Mr. FLOOD. On the same point, in view of the developments of the Fuchs incident with reference to the exchange of scientific information and scientists, will the gentleman address himself to any special measures that might have to do with security dealing with the interchange of information or of scientists? What would be the gentleman's opinion? What does the gentleman think should be done with special provisions having to do with security on just this one thing?

Mr. PRIEST. Does the gentleman mean with reference to this legislation or in a general way?

Mr. FLOOD. No, this legislation and this particular section of it.

Mr. PRIEST. If the gentleman will refer to page 15 of the bill he will find this language:

The authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only after consultation with the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

Mr. O'HARA of Minnesota. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. O'HARA of Minnesota. I would call my colleague's attention specifically to subsection (j) on page 20 of the bill which deals with that particular point.

Mr. PRIEST. Yes; I was going to call attention to that provision in the bill.

Mr. DURHAM. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. DURHAM. On page 9, subdivision (4) we find this language:

A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical,

medical, biological, engineering, and other sciences.

Some of us are concerned about the limitation of this measure. Did the committee try to confine this to the graduate level? Under this language you would go to the undergraduate level in granting scholarships. What I think we are trying to get at here is to take scientists at the graduate level. Certainly I am interested in that. I think it is necessary. But in granting scholarships to undergraduates, it seems to me that you are getting into a mighty wide field with no limitation on the number of scholarships.

Mr. PRIEST. May I say to the gentleman I do agree with his position. I want to make it part of the RECORD at this point that the emphasis is on graduate scholarships. It was felt, however, that it might well be left to the Foundation without tying it so rigidly.

Mr. DURHAM. But it is not confined to that. A man entering college could get a scholarship under this measure in his first year.

Mr. PRIEST. Under the terms of the bill as written it is possible.

Mr. KEEFE. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. KEEFE. The gentleman asked a question as to the possible cost of this undertaking. He indicated that there is at present in the budget \$500,000 for 1951.

Mr. PRIEST. That is correct.

Mr. KEEFE. There was suggested \$2,500,000 and \$12,500,000 of contract authority, or a total of \$15,000,000. He further stated it was expected it would level off at \$25,000,000.

I would call the gentleman's attention to the fact, and ask whether or not it is true, that the cost he is referring to is in addition to all present research costs that are being carried on by the Federal Government.

Mr. PRIEST. Certainly that is true.

Mr. KEEFE. And your report so states.

Mr. PRIEST. There is no question about that. That is true.

Mr. KEEFE. Therefore, when we are discussing costs on this thing it contemplates that the present level of expenditures for research supported by the Federal Government will be maintained and that this will be an ultimate \$25,000,000 in addition. Is that not true?

Mr. PRIEST. Insofar as the provisions of this bill are concerned, that is true. It is believed that by certain correlation of scientific research provided in this bill some of the others might be reduced and some duplication eliminated. But so far as this bill is concerned the gentleman has stated the situation correctly.

Now, Mr. Chairman, for the benefit of those who may not as yet be familiar with the function and organization of the National Science Foundation, I want to outline briefly what H. R. 4846 provides in this regard.

The National Science Foundation would be established in the executive branch as an independent executive agency consisting of a National Science Board and a Director. The Board would

consist of 24 members appointed by the President by and with the advice and consent of the Senate. The Director who is likewise to be appointed by the President and to be confirmed by the Senate would be a member of the Board ex officio.

Members of the Board must be persons eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs, and are to be selected solely on the basis of established records of distinguished service. Moreover, appointments are to be made in such a way that scientific opinion in all areas of the Nation is fairly represented. In making nominations for appointment, the President is requested to give due consideration to any recommendations which may be submitted to him by scientific and educational organizations.

The functions of the Foundation are as follows: The Foundation is directed to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences. The purpose of such a policy is to encourage governmental and private research agencies and educational institutions to adopt programs which will not conflict with each other and which will lie in the most fruitful fields. The Foundation will have no authority to exercise any dictation or control over research or education in the Nation.

The Foundation is directed to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences. It is to do this by making contracts or other arrangements, including grants, loans, and other forms of assistance for the conduct of such research.

The Foundation is directed to award scholarship and graduate fellowships in the basic sciences. It is directed to foster the interchange of scientific information among scientists in the United States and abroad. The Foundation is directed to evaluate scientific programs undertaken by individuals and by public and private research groups, including programs of Federal agencies, and to correlate its own research programs with the programs of these others. The Foundation is directed to establish from time to time special commissions as it may deem necessary for the purposes of the act. Finally, the Foundation is to maintain a register of scientific and technical personnel and in other ways to provide a central clearinghouse for information covering all scientific and technical personnel in the United States.

The Foundation will be divided into several divisions, a Division of Medical Research, a Division of Mathematical, Physical, and Engineering Sciences, a Division of Biological Sciences, and a Division of Scientific Personnel and Education.

In order to increase the number of scientifically trained persons available to do advanced basic research, the Foundation, within the limits of available funds, is to inaugurate a scholarship and graduate fellowship program for scientific study at accredited nonprofit American or foreign institutions of higher learn-

ing. The selection of the institution is up to the recipients of the scholarships and fellowships. Only citizens of the United States are entitled to receive scholarships and fellowships and they are to be selected solely on the basis of ability.

After extended hearings in three different Congresses, the Committee on Interstate and Foreign Commerce has become convinced that legislation of this character is essential to our security and general welfare. The committee has become deeply impressed by the fact that while the United States has for many years been eminent in the field of applied research and engineering development, it does not occupy a comparable prominent position in the field of fundamental or pure research.

Finally, some explanation of the patent provisions contained in H. R. 4846:

First of all, let me stress that the importance of patents in connection with Science Foundation legislation has been greatly overemphasized. Few, if any, patents are expected to materialize in connection with research sponsored by the National Science Foundation, since this research is to be concentrated on the basic sciences and patents related to the applied sciences rather than to the basic sciences. The patent provisions of H. R. 4846 have the support, among others, of the Commissioner of Patents, the patent adviser to the National Association of Manufacturers, and four major engineering societies.

The provisions are extremely clear and simple. They direct the Foundation to insert in all research contracts provisions with respect to patents which will protect the interests of the Government as well as the equities of the individuals entering into research contracts with the Foundation. Employees of the Foundation may not secure patents for inventions made in the course of their employment. The Foundation has the authority within the limits of available appropriations to acquire by purchase, lease, loan, or gift, personal property, and real property of all kinds necessary for the exercise of authority granted by this act. This authority would include the authority to acquire patents. However, no authority is granted to the Foundation to acquire patents through the power of condemnation.

In order to assure the fullest publicity with respect to all dealings of the Foundation in patents H. R. 4846 provides for the inclusion in the Foundation's annual report of a full and complete statement of all of the Foundation's activities with respect to patents.

This explanation of the patent provisions of H. R. 4846 should allay any suspicions which might be harbored in anyone's mind that the Foundation might become a giant patent holding company or that the Foundation would be authorized to condemn valuable patents to the injury of individual patent owners and to the detriment of our national patent system.

In conclusion, I want to say that the creation of a National Science Foundation is indispensable in the interest of the national security and the national welfare. We cannot take the continuing

satisfactory growth of our knowledge of basic scientific principles for granted. As Dr. Bush explained and as other scientists have emphasized, we have depended for such knowledge on the discoveries of European scientists. The European centers of science have been destroyed, or work under severe economic and political handicaps. Therefore, we must make a strenuous effort of our own to increase the stock pile of basic scientific knowledge in this country and toward this end the creation of a National Science Foundation can make an important contribution.

(Mr. PRIEST asked and was given permission to revise and extend his remarks.)

Mr. WOLVERTON. Mr. Chairman, I yield 5 minutes to the gentleman from Iowa [Mr. DOLLIVER].

(Mr. DOLLIVER asked and was given permission to revise and extend his remarks.)

Mr. DOLLIVER. Mr. Chairman, this is one of those pieces of legislation about which a good case can be made on either side. I have argued with myself a good deal about this bill and have come to the conclusion that I must support it. I quickly recognize that there are certain aspects of the bill which can be and probably will be attacked on the floor of the House.

Of course each Member of the House must make up his own mind as to how he proposes to vote. Already some of those aspects have been alluded to. For example, the financial aspect. Under the provisions of this bill the only real limitation on the amount of expenditure is the limitation placed upon it by the Congress in making appropriations. Certainly the bill may be subject to criticism on that score.

Likewise, there may be some criticism of this bill on the political basis. The Eightieth Congress passed a similar bill which was given a pocket veto by President Truman, on the ground that he was not satisfied with the administrative provisions of the bill. Likewise, some very serious objections can be made, upon that basis, to the provisions of this bill, in that it places in the hands of the Executive tremendous power.

The rationality that is behind my thinking on this bill goes beyond this. The last frontier in American life is the scientific frontier. Our forefathers came to this country, some of them 300, some of them 100, and some of them 5 years ago, perhaps. During the period of time that the North American Continent has been occupied by white people it has been conquered physically by them. The last remaining frontier for us is the scientific frontier, and unless we take all steps possible to enlarge our scientific frontier, inevitably, it seems to me, our kind of civilization must deteriorate.

This bill applies specifically to the idea of basic scientific research as contrasted with applied science. Recently I had an opportunity to observe a number of instances of application of basic science to industry; such as oil, coal, shale, natural gas, and aviation. A great many applications of basic science appear in all these industries, and in others as well.

Basic science is being profitably used by industry in the United States today. Of course that is their business.

For example, the oil industry spends millions of dollars annually to apply to their industry the basic scientific knowledge which comes out of our scientific institutions. But the place where we lag in the United States today, as has already been stated by Members who have spoken, is in the field of basic science; that is, into these esoteric areas:—those ideas which apparently have no practical application but may find practical application 20 years, 50 years, or 100 years hence. That is the field that this bill is designed to strengthen, and that is the field that is being neglected today in the American scientific world.

There was a time, as I think the gentleman from Tennessee [Mr. PRIEST] pointed out, when in the universities in the Old World, Germany, Austria, Italy, England, and France, that basic knowledge was being accumulated.

The CHAIRMAN. The time of the gentleman from Iowa [Mr. DOLLIVER] has expired.

Mr. WOLVERTON. Mr. Chairman, I yield the gentleman two additional minutes.

Mr. DOLLIVER. Alas, that is no longer the case. Scientific research in the Old World is virtually at a standstill, and the burden, therefore, comes upon us.

Somebody says, "Why not do this in a different way? Why not go out and insist that private charity and private philanthropy take care of this field? It has already been discussed in the colloquy between the gentleman from Tennessee [Mr. PRIEST] and the gentleman from Iowa [Mr. GROSS] on this floor. The reason that is not possible today is because of the tax situation in this country. There are no funds available today from private philanthropy to carry on this work, because we have taxed that kind of money out of existence. The alternative, of course, is to revise the tax laws so that basic science may have some support. That is the question I struggled with. But I see no immediate prospect that tax revision or that reduction of the tax load would take place regardless of what party were in power. I now yield to my colleague from Iowa.

Mr. GROSS. I thought that the corporations today, in spite of taxes, were making greater profits than ever before in the history of the country.

Mr. DOLLIVER. Experience has been, and the evidence before our committee showed, that funds were not available from private sources for basic scientific research. There are ample funds from that source for applied scientific research, but not for basic science.

The CHAIRMAN. The time of the gentleman from Iowa has expired.

Mr. CROSSER. Mr. Chairman, I yield 4 minutes to the gentleman from Illinois [Mr. O'HARA].

Mr. O'HARA of Illinois. Mr. Chairman, I come from the Second District in Illinois, where is located the great University of Chicago. From the distinguished members of the faculty, the

great scientists of the University of Chicago, I have received over 100 letters expressing approval of this bill. These men of learning who know the field of science and the requirements in that field tell me that there is no legislation pending that, in their opinion, is more necessary to continue the predominance of the United States in industry as well as in science, and to assure its security, as this legislation that we are now considering; so to my colleagues on both sides of the aisle I bring this message from these men of learning who have no concern except that which will bring benefit to America. They stand in support of this pending legislation.

Mr. CHURCH. Mr. Chairman, will the gentleman yield?

Mr. O'HARA of Illinois. I yield to my colleague from Illinois.

Mr. CHURCH. I am very proud to say that in my district is located Northwestern University. I am proud to say that I have received only one or two letters from its learned professors advocating this bill. I come from a district and a university section where its people believe that private enterprise can do as well as it has done heretofore and better if taxes are reduced, instead of increased as this bill will do. Today the main complaint over the United States is: "You are taking away the individual's freedom; you are taxing industry in this bill and denying it its freedom to spend money for basic science—taxing them to death." So you ought not use more public funds for this kind of a bill. I am proud to have had not more than one or two letters from my great university pressing for the passage of this bill.

Mr. O'HARA of Illinois. In reply I say that I regret that my friend from Chicago is speaking for a school that I attended, Northwestern, has chosen this occasion to make a political speech. I shall be glad on another occasion when we have not such important legislation pending, to sit down with my friend and my colleague from Illinois and discuss these matters of politics.

Mr. CHURCH. Mr. Chairman, if the gentleman will yield further, the gentleman knows I am making no political speech, and he will realize that when I tell him that I have no opposition at the present time. I am sorry the gentleman takes that position. If he has a hundred letters from his people, who is making the political speech?

Mr. CROSSER. Mr. Chairman, will the gentleman yield?

Mr. O'HARA of Illinois. I yield to the gentleman from Ohio.

Mr. CROSSER. Does the gentleman know that the president of Harvard, the president of Cornell, the president of Columbia, and the presidents of any number of the other big institutions that rank with the institution to which the gentleman from Illinois referred have been begging for this legislation?

Mr. O'HARA of Illinois. I thank the gentleman from Ohio for his contribution in making it perfectly clear that the great educators of the Nation are pretty thoroughly in accord in their endorsement of the plan for a National

Science Foundation as set forth in the measure before us.

The CHAIRMAN. The time of the gentleman from Illinois has expired.

Mr. WOLVERTON. Mr. Chairman, I yield 3 minutes to the gentleman from Pennsylvania [Mr. HUGH D. SCOTT, JR.].

Mr. HUGH D. SCOTT, JR. Mr. Chairman, I have been asked how I can possibly be for this bill which contains no limitation as to the expense involved with relation to the scholarship program. My answer is that I do not like the absence of any limitation, but I have every confidence in the Appropriations Committee. I wish it were not necessary for us to be relegated to that solution of the particular problem; however, I know of no other way by which this particular measure can be handled.

I am moved, as the gentleman from Iowa [Mr. DOLLIVER] was, by the evidence before the committee to the effect that there are no funds available from private industry to accomplish this purpose, that there are no funds which will permit the development of research in the basic sciences from private industry. I know that among organizations favoring this bill are the Disabled American Veterans, the American Federation of Labor, the Congress of Industrial Organizations, and the National Association of Manufacturers, chairman of the committee on patents. I am sure if it were felt by the manufacturers, for example, that funds for this purpose were available from industry they would have come to the committee and said so.

I am moved also by consideration of the provisions in the bill providing for a Medical Research Council. I am aware of the fact that the isolation of the virus of the common cold, for example, has not yet been accomplished, the prevention of which colds would save millions of man-hours of productivity that, even more urgently, the cause and the cure of cancer has not yet been discovered, that the treatment of or even the method of onset and the pathological course of unknown ailments of the human race which may develop in the atomic age are far beyond the limited means of a tax-ridden and tax-burdened economy.

For these reasons I may quarrel with myself on possible inconsistencies as regards the cost, but I am obliged, and reluctantly, to come to the conclusion that the bill ought to be supported, and I am going to support it. I cannot reconcile any other course with my conscience.

The CHAIRMAN. The time of the gentleman from Pennsylvania has expired.

(Mr. HUGH D. SCOTT, JR., asked and was given permission to revise and extend his remarks.)

Mr. WOLVERTON. Mr. Chairman, I yield 20 minutes to the gentleman from New York [Mr. WADSWORTH].

Mr. CHURCH. Mr. Chairman, I make the point of order a quorum is not present.

The CHAIRMAN. The Chair will count. [After counting.] One hundred twenty-one Members are present, a quorum.

Mr. WADSWORTH. Mr. Chairman, we are confronted here today with a

fundamentally important issue. I am painfully aware of the fact that I am not competent to discuss all of the details of this proposal. I am concerned about one or two aspects of it; deeply concerned.

Mr. Chairman, this is but one of a series of measures that is coming before the Congress which, if enacted, will increase the future financial commitments of the Government of the United States, this in spite of the fact that the Treasury is faced with a \$5,000,000,000 deficit for the fiscal year in which we are living; and in all probability a deficit of equal size will show up in the next fiscal year. We may say that this does not cost much, or that does not cost much, or that some other thing does not cost much, but every time we pass a bill of this sort we add to the national debt.

I listened with deep interest, indeed, to the observations made by some of the gentlemen supporting this bill who admit that our tax system has reached the point now where people cannot save enough money to endow efforts of this kind, and that therefore we must spend the money out of the Federal Treasury, which means of course, that eventually we must increase the tax burden. I leave that thought in your minds, having to do not only with this bill but several others that are on what might be termed the "conveyor belt," against which I have protested several times in the past. Whatever is the cost of this bill, we have not the money in the Treasury, whether it be \$15,000,000 or \$25,000,000; and I never knew any of these undertakings to stay within the limits estimated at the time they were authorized. Almost invariably they grow and grow just as bureaucracy always grows if you give it a chance.

This measure itself goes far beyond the objective emphasized by its supporters. You only have to read it to understand where it goes. The emphasis is placed by its supporters on subsidies, and that is what it means, subsidies or grants to encourage and support basic research.

But, the bill does not stop with basic research. It goes into any kind of scientific research. I could call your attention to some of the provisions which make that statement of mine perfectly clear. On page 2, line 15, we read:

After consultation with the Secretary of Defense—

Whatever "consultation" means, I do not know; it may be over the telephone—

After consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense—

The word "basic" is left out, although it is used in the preceding paragraph.

If we turn over to another provision on page 12, we find language that—the Foundation is authorized—

And that is a rather extraordinary proposal—to enter into contracts—

That means the payment of money in return for services—

or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and

foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities and such scientific research activities in connection with matters relating to the national defense.

They do not have to stop with basic research, they can go on with any kind of research. There it is in black and white.

I may call your attention to the fact that these contracts or other arrangements which can be made with foreign citizens, citizens of other countries, as well as with foreign governments, with respect to the national defense, may be entered into "without legal consideration, without performance or other bond, and without regard to section 3709 of the revised statutes." My recollection is, and my best information is that section 3709 of the Revised Statutes is that law which provides a contract shall be let in accordance with competitive bidding.

In other words, the lid is off. We might just as well understand it.

My position on this thing perhaps would not be so intense if literally this were confined solely to basic research and would not increase the future commitments of the United States Treasury. I think I am not violating a confidence when I say that I asked not only Dr. Vannevar Bush but others, and in correspondence with the Director of the Budget I asked, "Would it not be possible to promote this legislation or so amend it that it would not, if passed, add to the financial burden of the Treasury?" I have to say that I have received no encouragement.

Let us see what we are spending now and how much the passage of this bill will alter the picture. We are talking now of national defense. The Army had available funds for the fiscal year ending June 30, 1949, which is the last fiscal year, and I assume about the same sums are authorized for this year, of \$51,000,000 to spend in departmental laboratories for scientific research. The Navy was to spend \$60,000,000—I am giving the round figures—in departmental laboratories, and the Air Force \$52,000,000, in departmental laboratories.

Then when you get into other governmental laboratories where the three armed services are authorized to make contracts and expend money, the Army is to spend \$6,000,000, the Navy \$6,200,000, and the Air Force \$2,700,000.

The work of those departmental laboratories is costing \$163,000,000 per year, and in the other governmental laboratories \$15,000,000 a year.

Then when we go into the industrial field, the laboratories maintained by industries with which the Army, Navy, and Air Force make contracts, we find the Army is spending \$34,800,000, the Navy \$138,700,000, and the Air Force \$132,600,000—a total of \$306,000,000.

Then when we get to the contracts they are making and the money they are spending in university laboratories and nonprofit institutions, we find that the three forces—I shall not read the amount for each service—are spending \$59,000,000 a year.

The total being spent by the three armed forces is \$544,000,000 on scientific research.

Mr. CASE of South Dakota. Mr. Chairman, will the gentleman yield?

Mr. WADSWORTH. I yield.

Mr. CASE of South Dakota. Of course, that is not the full picture. We should also add the expenditures made by the National Advisory Committee for Aeronautics and the Atomic Energy Commission.

Mr. WADSWORTH. Yes; there are many others. I am coming to them, although I may not have all the figures. They are astronomical.

In discussing this measure with eminent scientists who are most earnest and sincere in their support of it, but who, according to my way of thinking, do not look very far into the future with respect to what we can do financially in this country, I have been told that the expenditures now being made by the Army, Navy, and Air Force for scientific research are almost entirely in the field of applied science. But only a little of it is in the field of basic research. I have been told quite the opposite by other scientists who say a very considerable sum is being spent by the armed services for basic research.

However that may be, what does this bill accomplish in teaming up these agencies? I cannot see anything, for under this bill this foundation may issue grants and subsidies not only to basic research, but to applied science. I can get no assurance from anybody to the contrary. In other words, I cannot escape the conviction that this thing is going to add considerably to the burden of the Treasury and fail to accomplish the very things which some of these splendid people think it is going to accomplish. I do not mean to be impertinent in my observation concerning them, but the fact is that most of the scientists with whom I have talked about this bill have never read it. That is the trouble. It goes much further than they think it does.

Mr. STEFAN. Mr. Chairman, will the gentleman yield?

Mr. WADSWORTH. I yield.

Mr. STEFAN. Has the gentleman added in the list of figures that he has given the \$1,300,000,000 which the Air Navigation Board, the ANB, will spend in scientific research and for which we are now being asked to make an additional appropriation?

Mr. WADSWORTH. No; I have not. I confess my inability to make a list, without studying for weeks and weeks, of all the agencies of the Government who are spending money for research purposes.

May I call your attention to this important fact, when you consider this bill. This Science Foundation is to have nothing whatsoever to do with research in the field of atomic energy—nothing. If we are facing a crisis with respect to the A-bomb or the hydrogen bomb today, we are hard at work, through the Atomic Energy Commission, in an effort to keep up with that development. The passage of this bill will do nothing to aid or hasten that. It is already being

done and at a cost of more than \$500,000,000 a year.

Mr. Chairman, I have tried to point out, and I have not done it completely, some of the provisions of this bill which are extraordinary to my judgment. I was very much surprised to find, for example, that under this bill the Foundation is authorized to acquire real estate. What for? There is a doubt in my mind as to whether they can employ the right of eminent domain. The provision says they may purchase real estate if they make up their minds that its possession is necessary to carry out the provisions of this act. That looks to me like the establishment or the encouragement of the establishment of a permanent bureau engaged in something more than mere education. Why do they need real estate? I have never had an answer.

Another thing—they are authorized to maintain a register of scientific and technical personnel and to provide a central clearing house for information covering all scientific and technical personnel in the United States.

I may remind the members of the committee that that is already being done by the National Academy of Science.

Back in 1863, in the administration of Abraham Lincoln, the Congress incorporated, under a charter granted to the organization, the National Academy of Science. It was not incorporated as a part of governmental machinery. It is outside the Government, as contrasted with this Foundation which is to be inside the Government, and a part of Government operation.

The National Academy of Science, under its charter, is required to respond to the request of any department of the Government of the United States for aid and assistance in conducting scientific research. When so requested, and they must respond, they do so without any thought of gaining a profit. In order to keep the Government informed as to what men in the United States are the better able to engage in these research problems, the National Academy of Science maintains a list of the eligible scientists that the Government may call upon at any moment. There is not the slightest necessity for this Foundation maintaining another list.

But I am more deeply concerned as to the trend which this legislation indicates. Not all of you may agree with me, but I have long since reached the conclusion that when a Federal agency, a part of the Government, is authorized to distribute subsidies to colleges, universities, and perhaps to industrial laboratories, it will gain a measure of control over the activities of those institutions. It is almost inevitable. As human beings, you all know it to be so.

This Foundation is authorized, in effect, to coordinate—and that is a terrible word, we never quite know what it means—to coordinate scientific research over the country; to see to it that there is no duplication of effort as between the institutions; and, armed with the weapon of subsidy, it may say to a great university laboratory: "Here is a subsidy for you if you will follow a certain line

of investigation"; whereas another institution may be tempted to take a subsidy if its line of inquiry does not duplicate the line of inquiry pursued by the first.

The objective of this bill, as I understand, is to spread around the country amongst the institutions, collegiate, and of university character, these different efforts of research in the scientific field. Obviously, institutions accepting the subsidies must obey the schedule. It would be folly for the Foundation to give subsidies for duplication of efforts. In other words, the Foundation will eventually become the master—the master of scientific research in the United States, because it will hold in its hand that very tempting bait, money, money.

We are already holding our own in the field of atomic energy. I am not familiar with the progress made in other fields of science, except I cannot escape the conclusion, for example, that we are making extraordinary progress in the field of medicine, more so than in any country on the face of the earth today. It is being done almost entirely without Federal funds. For example, pharmaceutical companies and Armour & Co. have only recently announced medical discoveries. We can get along better without this bill in the field of medicine.

The CHAIRMAN. The time of the gentleman from New York [Mr. WADSWORTH] has expired.

Mr. CROSSER. Mr. Chairman, I yield 10 minutes to the gentleman from Massachusetts [Mr. McCORMACK].

(Mr. McCORMACK asked and was given permission to revise and extend his remarks.)

Mr. McCORMACK. Mr. Chairman, this afternoon we have listened to several distinguished Members of the House speak in support of the passage of this bill. They have made able and convincing arguments. The gentleman from Iowa frankly said that he had weighed both sides of the bill in his own mind and resolved to support and vote for the bill. The gentleman from New Jersey [Mr. WOLVERTON], whom I consider to be one of the ablest and soundest and most courageous Members of the House, made a convincing argument that I believe is unanswerable. The gentleman from New York bases his opposition on the ground of cost, stating that the passage of this bill will add to the national debt. When I think of the 13 or 14 billion dollars that we appropriate for national defense—and repeatedly before I became majority leader did I follow the gentleman from New York in an effort to increase national defense appropriations—I hope the amount of money we are appropriating for national defense, for aid, Navy, and Army, will be sufficient; but, if not, we ought to recognize our duty in the world today and provide the necessary money to establish strength, strength that would be respected by the challengers of our way of life, respect because of their fear. My friend from New York said that we are holding our own in the field of atomic energy. I do not want to hold our own in that field, I want to be ahead; I want our country to be way out front in that field.

Reference was made to paragraph 3 of section 3 on page 2 of the bill. My friend the gentleman from New York [Mr. WADSWORTH] said that the word "basic" was omitted. Of course, it is omitted, because it ought to be omitted.

Paragraph 3 states that after "consultation with the Secretary of Defense"—this consultation on defense matters. Scientific research is not only basic or pure, but to be of value must also be applied. The man who works in the field of pure science is the man who develops the ideas. These ideas must then be passed to scientists and technicians for testing and proof. After the discovery and proof of scientific principles they then go to engineers and designers who reduce the new discoveries to practical use. We must pursue research in the fields of basic science, but further than that we must put the basic scientific discoveries to practical application and development and operation.

It is most important to our national welfare that basic research in all scientific fields receive the Federal aid that is promised by the establishment of the National Science Foundation.

For many years our leading scientists and many of our military leaders have urged, over and over again, that we establish this foundation which is designed to assure that our country will maintain its preeminent position in advancing national health and welfare and to stimulate scientific discovery in national defense.

The National Science Foundation will provide vital basic information which military research and development can take and apply.

The establishment of the National Science Foundation does not involve the expenditure of great sums of money. As a matter of fact, while its influence will be great, its cost over what we are now spending, will be a relatively small annual expense.

We must go forward; we cannot stand still or fall behind. The National Science Foundation is a great step forward, a very necessary step—and while the results from its work may be 10 or 20 years ahead, we must no longer delay establishing it.

We constantly read in the public press of the steps being taken to protect our country against attack. Let me dwell briefly on one phase of our protection, which generally escapes wide attention, partly because it is the nature of the activity and the men engaged in it and because its work is shadowed in secrecy in the best interests of our country.

Our basic research scientists strive to discover new phenomena, and improve everything that goes to wage successful war. They are away out in advance in their pioneering and normally it takes about 5 years for their work to come to fruition.

Following them come the development scientists and technicians who must prove the value of these scientific discoveries and it usually means that these men are 3 years in advance of the day when the equipment is distributed to our fighting men.

Then come the engineers and designers who reduce the new discoveries to practical size and try the equipment or materials out in the field. Finally come the procurement agencies, who must then place the orders for the new equipment, figure out the quantities, delivery dates, and shipping points, so that finally our Army, Navy, and Air Force receive the new military equipment and are trained in its use.

Our great power of preparedness to defend ourselves comes from outstanding scientists, our great industrial plants, and our military leaders, working closely together in a closely knit team.

Our great industries stand ready, our Army, Navy, and Air Force are prepared, but we must make sure that our scientists continue to receive all of the aid they need, and if necessary that we expand these research activities to the greatest possible extent.

Secretary Acheson has recently said in substance "The Soviet Union will not keep any agreement and the only power they will recognize is strength."

I submit to you that if our American scientists can be supreme in all phases of military scientific work, greatly superior to any country in the world, this will give us the protection against any attack that our enemies may plan. Indeed if they know of our great superiority, and they are bound to learn it as a fact and fear it in its specific application, we will have raised the greatest possible defense against a war in the future.

At the present time America still leads in many fields of military scientific work, but we must be supreme in all of them and I believe that if our scientists need more money, greater freedom of activity, more cooperation, that we should make sure that they have it.

Let us increase our military scientific work to the greatest possible degree and do it without delay, and enlist every scientist that has the capability of producing something of military value.

The statement has been frequently made that one of these quiet learned men, working and concentrating on some particular development, may at any time come forward with some new device, some new weapon, some new defense that could save the lives of hundreds of thousands of American boys in the event that we are again called on to protect our country.

America must not fall behind in this international race for supremacy in military weapons and equipment. Let us all hope and pray that we will never find it necessary to use these weapons against an enemy but let us be prepared. Full preparedness is our best protection, and this includes superiority in the field of military science.

I would like to know what scientists the Soviet Union have today? I wish I knew whether they are ahead of us or we are ahead of them. It may be that as a result of the discoveries of scientists war may or may not be averted.

To an important extent, in the passage of this bill lies the future security and welfare of this and future generations. This bill will accomplish these purposes

in two main ways. It will provide a central agency which will assure adequate and continuing support of basic research and it will also provide for the continuing supply of highly trained scientists in greater numbers to meet the needs of basic research.

The last 50 years has witnessed outstanding developments which have almost completely changed our way of life, and it is most certain that in the next 25 years we will see even greater accomplishments as mankind releases the forces of nature and applies them for the betterment of everyone.

The basis of this great advance lies in scientific discovery and application. Working with mathematical formulas, and studying through microscopes and test tubes, year in and year out, our basic scientists and technicians work constantly for these new discoveries. The applied scientists take these findings and develop them for our use, but no great advance could be made, unless the basic scientist first discovered a new phenomena or a new bacteria.

Basic research is in essence that work done usually in universities or nonprofit foundations. Although frequently financed by grants from industry, basic research is seldom carried on in industrial laboratories because, practically speaking, it does not result in a thing or process which can immediately be made and sold or used for profit.

Our scientific world is without national leadership and there are many gaps in our knowledge that should be explored. This organized exploration is one of the promises of the National Science Foundation. Perhaps of even greater importance is the undeniable fact that the number of outstanding scientists in America is very limited and we must do everything possible to increase the number of qualified men and women engaged in this work.

The National Science Foundation will have the power to make scholarship and fellowship grants to promising scientists and students.

Today we are all vitally concerned with the importance of military research. We must be sure that America remains preeminent and supreme in the discovery of new weapons and military equipment. A world-wide race is going on for new and better ways of waging war.

In my opinion, one of the ways of preventing war is to be so far ahead in military scientific research and development that no country or combinations of countries will dare attack us. If we have this outstanding leadership in military research the fact will inevitably become known, even though the particular weapons or discoveries are guarded secret and not known to those who might attack us.

The National Science Foundation will provide vital basic information which military research and development can take and apply.

The CHAIRMAN. The time of the gentleman from Massachusetts has expired.

Mr. CROSSER. Mr. Chairman, I yield the gentleman five additional minutes.

Mr. KEEFE. Mr. Chairman, will the gentleman yield?

Mr. McCORMACK. I yield to the gentleman from Wisconsin.

Mr. KEEFE. The gentleman is making a very splendid statement. Does the gentleman understand that if this bill is enacted into law and becomes operative, the operations end of this research program that he is discussing will be taken out of the hands of the Army and the Navy and the Air Force, and be transferred to an operating agency under the National Science Foundation.

Mr. McCORMACK. No; I am not making that argument.

Mr. KEEFE. Well, does the gentleman understand whether that is or is not the purpose of this bill?

Mr. McCORMACK. I cannot say that, but I will give the gentleman a frank answer. I hope that some civilian control of our scientists will take place, because one thing that a scientist will not stand for is to be subject to discipline by an Army officer. I will state that I stood for it as a buck private, but I do not want to stand for it in civilian life. Certainly, in the Army and the Navy there has got to be discipline. But, I am frankly stating that this is a question that has to be looked into as to whether or not there is that freedom, without the attempt of discipline going on, that would permit the maximum development in the field of pure or basic science.

Mr. KEEFE. I do not want to interrupt the gentleman's train of thought, but I think these questions are basic. Normally I am for this program, but I want to get certain basic things established in my mind so that we will understand what we are voting for when we vote for this legislation. The gentleman or no one will dispute the fact that the gentleman from New York has called attention to the various research programs of the Army, the Navy, the Air Force, the Aeronautics Board, and so on, costing vast sums of money. Now does the gentleman understand, in advocating the passage of this legislation, that if it passes, the operating end of those research programs will be transferred from where they are presently located and established under the authority of the National Science Foundation Commission.

Mr. McCORMACK. Frankly, I have no such understanding as that, and I am making no such argument.

Mr. KEEFE. I would like to have that matter cleared up.

Mr. BIEMILLER. Mr. Chairman, will the gentleman yield?

Mr. McCORMACK. I yield to the gentleman from Wisconsin.

Mr. BIEMILLER. The intent of the bill is perfectly clear. The operating research programs, particularly the Government program to which the gentleman from Wisconsin [Mr. KEEFE], refers, will remain as operating agencies where they are now located; the Army, the Navy, Public Health, or whatever the situation may be.

Mr. KEEFE. I thank the gentleman.

Mr. McCORMACK. May I say that the gentleman's questions, I think, have been very pertinent. I hope that there is a complete understanding on the part of the Army officers and the scientists; and that includes the Navy and the Air Force. I hope there is no misunderstanding, and that resignations have not been reluctantly made, like President Compton, and men like that. We need them. God knows we need these scientists. If that is so, I hope the situation will be rectified very quickly, because one thing is certain, that the man who is a scientist is a very valuable citizen. We did not expect so much of him before; that is, the people generally, but he plays a very important part in the world of today, not only in peacetime, but particularly in time of war, and particularly in developing the ideas that might avert war or, in case of the further visitation of war, result in victory for our side.

Mr. KEEFE. Mr. Chairman, will the gentleman yield further?

Mr. McCORMACK. I yield.

Mr. KEEFE. Does not the gentleman agree with me that any operating program under this present law must give and afford complete and absolute freedom to the scientist who may be engaged in any part of scientific research? He must have absolute freedom.

Mr. McCORMACK. I thoroughly agree with the gentleman, and that means there must be understanding cooperation. I would like to know if the pure scientists in the Army are operating with the knowledge of what is going on in the Navy and the Air Force, or whether they are detached? All those things are important. We are talking about a man with a brain that the American people should realize is of great value, and that is the scientists in all fields, but particularly the scientists in the basic or pure field of science.

The CHAIRMAN. The time of the gentleman from Massachusetts has again expired.

Mr. CROSSER. Mr. Chairman, I yield the gentleman three additional minutes.

Mr. McCORMACK. In every field of science, all over America, our scientists are loyally working to develop new discoveries in military equipment, weapons, and materials, in their own individual laboratories, in groups, and in large institutions of learning.

The work is constant, never ceasing, and more than ever I am convinced that from these patriotic men must come the strongest force of our preparation, so that if the day comes that our boys must again defend our country, they will again not alone have the best equipment that brains can devise and our industry produce, but it will be so superior that there will be no question of the result.

We have to be practical. The most critical period in a democracy is when danger is imminent. That is the time we should prepare. That is the time when public opinion operates. When war exists we all have to get behind the Government to win the war. In times

of peace we can struggle along, but when danger is imminent public opinion is usually inflamed and responds to emotional influences, and usually public opinion is wrong. I recognize it to be a human trait that the average individual does not want to see danger approaching. I was majority leader before Pearl Harbor. I saw the selective service extension bill pass this House by one vote. I lived 200 years in the 25 minutes on that roll call. It is when danger is imminent that democracy is weakest, because that is when we fail to do the things we ought to do.

I do not say I have the answer, for I am just a human being, a Member of this body trying to do the best I can for my country and for a future decent world, but I am convinced that the one thing that will stop war is greater power on the part of America and those countries associated with us, but mainly America, because the Communist world, the Communist countries, have only one respect, and that respect is the respect through fear of any country or countries that have greater strength and power than they.

In this particular field, in the field of science in all of its aspects, and particularly in the field of pure or basic science, any money we invest now I contend is one of the best investments we can make at this time.

Mr. Chairman, our basic research scientists strive to discover new phenomena, and improve everything that goes to wage successful war. They are away out in advance in their pioneering and normally it takes about 5 years for their work to come to fruition.

Following them come the development scientists and technicians who must prove the value of these scientific discoveries and it usually means that these men are 3 years in advance of the day when the equipment is distributed to our fighting men.

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At the present time America still leads in many fields of military scientific work, but we must be supreme in all of them and I believe that if our scientists need more money, greater freedom of activity, more cooperation, that we should make sure that they have it.

Let us increase our military scientific work to the greatest possible degree and do it without delay, and enlist every scientist that has the capability of producing something of military value.

The statement has been frequently made that one of these quiet learned men, working and concentrating on some particular development, may at any time come forward with some new device, some new weapon, some new defense that could save the lives of hundreds of thousands of American boys in the event that we are again called on to protect our country.

America must not fall behind in this international race for supremacy in military weapons and equipment. Let us all hope and pray that we will never find it necessary to use these weapons against an enemy, but let us be prepared. Full preparedness is our best protection, and this includes superiority in the field of military science.

Mr. WOLVERTON. Mr. Chairman, I yield 10 minutes to the gentleman from Massachusetts [Mr. HESELTON].

(Mr. HESELTON asked and was given permission to revise and extend his remarks and include certain material.)

Mr. HESELTON. Mr. Chairman, I certainly approach this subject with a good deal of hesitation in view of the remarks that have been made by the able gentleman from New York. I recognize his sincerity and his conviction that this is bad legislation. I hope I will be able to indicate to you why I have been forced to the conclusion that this is not only good legislation but that there is no other alternative open to us this afternoon other than to support this legislation in the interest, first, of our national security, and in the interest, second, of the conditions that face us as far as the economic welfare of this country and the health of the American people is concerned.

The gentleman is entirely right in calling attention to the gigantic expenditures of the Federal Government now in the field of research, both basic and applied. But there are some distinctions which I think it might be well for us to consider. On page 1,118 of the budget, there is a listing of the expenditures for 1949, 1950, and 1951 for research and development in the Federal Government. It is as follows:

Expenditures for other developmental purposes

[In millions of dollars]

	1949, actual	1950, estimate	1951, estimate
Research and development			
Civil:			
Direct Federal programs:			
Atomic Energy Commission.....	114	155	176
Other agencies.....	85	118	119
Total, direct Federal programs.....	199	272	295
Grants-in-aid.....	11	12	12
Total, civil research and development.....	210	285	307
National defense:			
Department of Defense.....	688	630	606
Other agencies.....	42	49	50
Total, national defense research and development.....	730	679	656
Total, research and development.....	940	964	963

So the total of the Federal Government's expenditures, according to the budget, is \$940,000,000 actually in 1949; \$964,000,000 recommended in 1950 and \$963,000,000 estimated in 1951.

That gave me a great deal of concern as to where we were heading and as to whether we were actually accomplishing the purposes most of us had in mind. I am frank to say when we first considered this question in committee I was in serious doubt as to the wisdom of the legislation. The more I listened to and studied the evidence presented to us by over 150 qualified witnesses from all over the country, practically all of them earnestly in favor of some kind of legislation such as this, the more I became convinced we simply had to face the picture realistically and accept our responsibility in this field.

In that connection let us consider who some of the eminent Americans are who support this bill. A partial list follows:

National associations of scientists, engineers, physicians, educational institutions, labor, manufacturers and others, a partial list of which is given below:

SCIENTIFIC ORGANIZATIONS

American Association for the Advancement of Science, represented by Dr. C. F. Kettering, president, Dr. F. R. Moulton, permanent secretary, and Dr. Howard A. Meyerhoff, secretary.

American Documentation Institute, Dr. Watson Davis, president.

Association of Oak Ridge Scientists (Manhattan project), Dr. H. J. Curtis.

Association of Los Alamos Scientists (Manhattan project), Dr. Robert Wilson.

American Council of Learned Societies, Dr. Mortimer Graves.

American Chemical Society, Col. Bradley Dewey, president-elect.

Engineers Joint Council (representing the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, and the American Institute of Chemical Engineers), Dr. Boris Bakhmeteff.

National Research Council, Division of Biology and Agriculture, Dr. Robert Griggs.

American Biological Society and Union of Biological Sciences, Dr. C. V. Taylor.

Ecological Society of America, Alfred C. Redfield, president.

Society of American Bacteriologists.

Mycological Society of America, Dr. Frank D. Kern, president.

American Medical Association, Dr. Morris Fishbein, secretary.

American Council on Rheumatic Fever, American Heart Association, Dr. David D. Rutstein.

Physician Forum, Dr. Henry B. Richardson. American Pharmaceutical Association, Dr. Robert P. Fischells.

American Osteopathic Association, Dr. J. S. Denslow.

EDUCATIONAL AND RESEARCH INSTITUTIONS

American Council on Education, Dr. George F. Zook, president.

Guggenheim Foundation, Dr. Henry Allen Moe, secretary general.

Association of Land Grant Colleges and Universities.

Engineers' Council for Professional Development.

American Society for Engineering Education.

OTHER NATIONAL ORGANIZATIONS

Congress of Industrial Organizations, Philip Murray, president.

National Association of Manufacturers, R. J. Dearborn, chairman of committee on patents.

American Federation of Labor, Lewis G. Hines, legislative representative.

National Farmers' Union, Russell Smith, legislative secretary.

American Veterans' Committee, Cpt. Orville Freeman.

Disabled American Veterans, Dr. Harry Mallisoff.

GOVERNMENT OFFICIALS

(The position held by the individual at the time his testimony was given is listed.)

Vannevar Bush, president of the Carnegie Institution of Washington and wartime Director of the Office of Scientific Research and Development.

Gen. H. H. Arnold, Army Air Forces.

Karl T. Compton, chairman, Research and Development Board (representing the National Military Establishment).

Maurice J. Tobin, Secretary of Labor.

John Studebaker, United States Commissioner of Education.

Vice Admiral Ross T. McIntire, Surgeon General, Navy Department.

Maj. Gen. Norman T. Kirk, Surgeon General, United States Army.

Carroll L. Wilson, General Manager, Atomic Energy Commission.

Charles F. Brannan, Secretary, Department of Agriculture.

Robert P. Patterson, Secretary of War.

James V. Forrestal, Secretary of the Navy.

Dr. J. C. Hunsaker, Chairman, National Advisory Committee for Aeronautics.

Harold D. Smith, Director, Bureau of the Budget.

James E. Webb, Director, Bureau of the Budget.

Maury Maverick, Chairman, Smaller War Plants Corporation.

Paul A. Porter, Chairman, Federal Communications Commission.

Casper W. Ooms, Commissioner of Patents.

A. N. Richards, Chairman of the Committee on Medical Research, Office of Scientific Research and Development.

Watson B. Miller, Federal Security Administrator.

Sumner T. Pike, Acting Chairman, Atomic Energy Commission.

Oscar L. Chapman, Under Secretary of the Interior.

J. Donald Kingsley, Acting Administrator, Federal Security Agency.

Ernest A. Gross, Assistant Secretary (for the Secretary of State).

OUTSTANDING CITIZENS AND SCIENTISTS

(Institutions listed as of the date of testimony before congressional committees.)

Bernard M. Baruch.
Dr. Harold C. Urey, University of Chicago.
Dr. E. G. Nourse, vice president, Brookings Institution.

Dr. Irving Langmuir, associate director, General Electric Laboratories.

Ralph McDonald, executive secretary, National Education Association.

James Bryant Conant, president, Harvard University.

Robert E. Doherty, president, Carnegie Institute of Technology.

Charles E. MacQuigg, Engineering College Research Association, dean of engineering, the Ohio State University, past president, American Society for Engineering Education.

A. A. Potter, executive director, Patent Planning Commission; dean of engineering, Purdue University; past president, American Society for Engineering Education, American Society of Mechanical Engineers, American Engineering Council.

Roger Adams, chairman, board of directors, American Chemical Society.

H. P. Hammond, dean, School of Engineering, the Pennsylvania State College; past president, American Society for Engineering Education.

Thorndike Saville, dean, College of Engineering, New York University; president, American Society for Engineering Education.

Dr. R. J. Oppenheimer, director, New Mexico Laboratories, Manhattan project.

Dr. L. A. DuBridge, director, Radiation Laboratory, Massachusetts Institute of Technology.

Bruce K. Brown, vice president in charge of development, Standard Oil Co. (Indiana).

Edwin H. Land, president and director of research, Polaroid Corp.

R. E. Gilmor, Aircraft Industries Association; president, Sperry Gyroscope Co.

Dr. Henry DeW. Smyth, chairman, department of physics, Princeton University.

Dr. I. I. Rabi, Columbia Radiation Laboratory, Columbia University.

Dr. Abel Wolman, professor of sanitary engineering, Johns Hopkins University.

Dr. Walter Rautenstrauch, professor of industrial engineering, Columbia University.

Dr. Edmund E. Day, president, Cornell University.

Dr. John M. Potter, president, Hobart and William Smith College.

Dr. Louis H. Weed, National Academy of Sciences.

Dr. A. N. Richards, chairman, Committee on Medical Research, Office of Scientific Research and Development.

Dr. Francis G. Blake, dean, Yale School of Medicine.

Rev. J. C. S. O'Donnell, president, Notre Dame University.

Dr. L. C. Dunn, chairman, Department of Zoology, Columbia University.

Dr. D. W. Bronk, director, Johnson Research Foundation, University of Pennsylvania (later president of Johns Hopkins University).

Dr. Edmund W. Sinnott, director, Sheffield Scientific School, Yale University.

Dr. W. M. Stanley, Rockefeller Institute for Medical Research.

Dr. Raymond Zirkle, director, Institute of Radiobiology and Biophysics, University of Chicago.

Philip R. White, associate, Rockefeller Institute for Medical Research.

Leonard Carmicel, president, Tufts College; former director, Roster of Scientific and Specialized Personnel.

Ewing Cockrell, United States Federation of Justice.

John T. Cox, Jr., American Institute of Chemical Engineers, Engineers Joint Council

George E. Folk, National Association of Manufacturers.

Dael Wolfe, secretary, Intersociety Committee for a National Science Foundation.

M. H. Trytten, director, Office of Scientific Personnel, National Research Council.

Sidney D. Kirkpatrick, editor, Chemical Engineering, on behalf of the Associated Business Papers and the National Conference of Business Paper Editors.

Carl D. Anderson, Nobel Laureate; professor of physics, California Institute of Technology.

A. G. Christie, past president, American Society of Mechanical Engineers; professor of mechanical engineering, the Johns Hopkins University.

Paul R. Elicker, executive secretary, National Association of Secondary School Principals.

F. Malcolm Farmer, fellow and past president, American Institute of Electrical Engineers.

Walter S. Rogers, director, Institute of Current World Affairs.

Robert L. Stearns, president, University of Colorado.

E. H. Volwiler, director of research, Abbott Laboratories.

Warren Weaver, director, the Natural Sciences, Rockefeller Foundation.

Robert E. Wilson, chairman of board, Standard Oil Co. of Indiana.

John H. Teeter, representing the American Cancer Society.

R. C. Gustavson, chancellor, University of Nebraska.

Dr. Hugh Wolfe, professor of physics, New York City College, Federation of American Scientists.

Let me turn to another development which is, in my opinion, of extreme interest. You will recall that the Department of Defense actually spent \$688,000,000 for research and development in 1949. That its estimate for 1950 in this field dropped \$58,000,000 to \$630,000,000 and that its estimate for 1951 dropped another \$24,000,000 to \$606,000,000 in 1951. That is a total reduction in a period of only 2 years of \$82,000,000. Certainly such a development is not being made at the expense of our national security. Surely a substantial savings in the field of national security should point the way to other agencies which, without exception, increased their estimate in 1950 over 1949 and increased them again in 1951 over 1950. In short, while the National Defense has succeeded in reducing its program by \$82,000,000 in this 2-year period, the other agencies have increased their estimates by \$105,000,000.

Why is this?

I think the answer is to be found in the second report of the Secretary of Defense. Let me quote briefly from that report. In the Secretary's report you will find these two paragraphs at page 16:

In the field of science, unification is working well. The Research and Development Board, with the aid and advice of the Nation's top civilian and military technical specialists, is coordinating some 13,000 specific research and development projects of the armed forces, involving an expenditure of about a half billion dollars a year. By eliminating undesirable duplication, by requiring full use of existing facilities, and by sponsoring the exchange of information on pertinent research and development, both inside and outside the Government, the Board has been able to bring about savings in some areas and to shift funds made available

thereby to neglected or to more important fields. Satisfactory progress is being made in the formulation of a complete and integrated program of military research and development to provide instruments of warfare essential to our security within a budget that can be supported by the economy of this country.

Recognizing the need for technical and operational evaluation of weapons on an interservice basis, the Joint Chiefs of Staff and the Research and Development Board, with the concurrence of the Secretary of Defense, established the Weapons Systems Evaluation Group early this year to provide rigorous, unprejudiced, and independent analyses of present and future weapons systems under probable future combat conditions. These analyses are being made by the ablest professional minds, military and civilian, employing the most advanced analytical methods that can be brought to bear.

The entire chapter IV, entitled "Scientific Research and Development," is worthy of careful reading and again I recommend it highly as valuable evidence for all of us to consider.

For my purposes, I would like to quote brief excerpts answering the question, Why military research and development is necessary:

If there is any one military policy on which the Congress and the public seem to be unanimous, over and beyond the determination to be strong in this period of international uncertainty, it is determination to have superior military equipment and to base war strategy on its use.

The phrases "Magenot Line complex" and "preparing to fight the next war with weapons of the last war" are familiar expressions of our concern lest we take the easy but dangerous course of reliance on the status quo in a world of accelerating progress in technology.

It was a determination to take full advantage of every possible technological superiority that led the Congress to establish the Research and Development Board as part of the national defense structure; it is the job of this Board to insure that the desired superiority is achieved.

Aircraft that can travel faster than sound, guided missiles with increasing ranges and greater accuracy, and submarines that can "breathe" under water for indefinite periods of time are a few of the potential weapons on which material progress has been made since the close of World War II.

It is essential to the security of the United States that its defense be planned in terms of significant new technological advances. Already many of the remarkable weapons of World War II are obsolete or obsolescent, and planning must be done not only in terms of what exists today but in terms of those developments, the early realization of which may profoundly influence the nature of future conflicts.

Another element which plays a substantial part in research and development planning is the possibility of unconventional warfare. This term is applied to such things as biological warfare, radiological warfare, and chemical warfare in new and insidious forms. It also includes psychological warfare which affords a potential enemy many techniques for the destruction of morale and for undermining the capacity of self-defense. Except for the psychological aspects, unconventional warfare did not figure in World War II. Because it exists as a potential threat, however, full consideration must be given to adequate defenses and countermeasures.

The Army and the Navy have vigorous research and development programs which

have grown up over a period of years. When the Air Force was constituted as a separate branch of the armed services, its research and development efforts represented a third important program. The size, diversity, and complexity of the fields covered by these programs make sound planning increasingly important.

It is the function of the Research and Development Board to provide a complete and integrated plan of military research and development and to assign responsibility for carrying out its various parts to the respective military departments. The Board must decide such questions as what portion of the research and development dollar should go into studies in the defensive aspects of biological warfare, into basic research in the physical sciences, into the development of guided missiles, and so on through the whole list of weapons, equipment, techniques, and devices.

The coordinating activities of the Research and Development Board enable each department to become aware of what the other departments are doing in research and development. Unnecessary duplication is thereby located and eliminated or prevented. More difficult, but probably of greater significance, is the Board's continuing responsibility to shift emphasis and funds away from programs of lesser military promise and into those of greater value. The existence of such a coordinating agency makes it possible to stretch the research and development dollar and to cut costs.

Since the close of World War II military expenditures for research and development have averaged over a half billion dollars per year. Although this is but a small percentage of the average total military budget, it is a large figure in comparison to the much smaller sums spent on military research and development before the war—in comparison, say, to the \$13,000,000 obligated for military research and development in 1939, the year World War II began. The amount of money currently being spent for research and development is only slightly less than the entire military appropriation for 1924, and is almost 50 percent as much as the total military appropriation as late as 1937.

Every citizen is naturally interested in three questions: (1) Why has it become necessary to spend large sums for research and development, (2) what are these funds buying, and (3) does the United States have the best military research and development program in the world today?

Basic research represents the broad base of theoretical knowledge and new ideas from which all applications, military and otherwise, must be drawn. If basic research already flourished independently in our universities and industrial organizations, the need for Government sponsorship in this area would not exist, or at least it would not be required on the present scale. In the past the United States has drawn heavily upon the basic research of Europe for ideas, while it excelled in practical applications and engineering.

Although there is a growing body of fundamental science in the United States today, the reservoir is not yet great enough to compensate for the drains made upon it and for the destruction of European science by the war. The military departments are therefore sponsoring limited programs in fundamental science until such time as the United States has caught up in this area. They are also supporting the proposed legislation for a National Science Foundation.

Let me repeat that: "They are also supporting the proposed legislation for a National Science Foundation." This bill was reported June 14, 1949. The report

of Secretary of Defense was filed December 30, 1949.

Now to return to that report!

The country is also interested in the early rehabilitation of European science as part of the storehouse of general knowledge.

Then there is this significant section entitled "Savings Through Coordination," which continues:

By eliminating undesirable duplication, by requiring full use of existing facilities, and by sponsoring the active cross-exchange of information on pertinent research and development both in and outside the Government, the Research and Development Board has been able to bring about savings in some areas and to shift funds made available thereby to neglected or to more important areas of research and development.

Not all savings are reflected in the ledgers, however, because much coordination takes place in the Research and Development Board, when members of the military departments get together around committee or panel tables. For example, in the field of electron tubes a proposal for military work on a metal envelope cathode ray tube was not activated, since such a tube was found to be already under development by another agency.

Formally effected coordination is illustrated by recent Board action on the recommendation of the Committee on Guided Missiles, requesting that three existing projects be terminated and two others combined into one. Through this action an estimated \$6,000,000 in planned obligations for the fiscal year 1950 was made available for allocation to other guided missiles projects of high priority.

The Research and Development Board also sponsors standardization wherever possible to make for greater economy and of efficiency. An example in the research and development field proper was the introduction of standards for a uniform system of telemetering for the flight testing of guided missiles at the several test ranges. This has reduced the vast number of different parts of equipments formerly in use by the services. Old telemetering equipment is being replaced by the new standard equipment on a maintenance basis.

To render assistance to the Munitions Board, the Research and Development Board has established a policy which urges the departments to give attention throughout the development of each project to the creation of simple, easily produced designs. Ease of fabrication, assembly, inspection, and maintenance and promotion of interchangeability wherever possible are important considerations. The departments must assure the minimum use of strategic and critical materials, the minimum number and diversity of parts, and the maximum use of standard components and accessories.

In its own operations, the Research and Development Board saves funds and avoids duplication of effort by utilizing wherever possible the established groups of other agencies to make necessary studies and investigations. The Committee on Medical Sciences, for example, is utilizing several of the medical committees and panels of the National Research Council as panels of its own committee.

The problem, therefore, becomes one of obtaining the maximum benefit from every research and development dollar.

Public opinion demands that American defenses be modern and adequate to render the country secure against attack. When the United States citizen faces his responsibilities as a taxpayer he must bear in mind that the development cost of a modern large bomber through the prototype stage, to cite

but one example, may well exceed \$50,000,000, including the necessary special equipment that must go with it. Similarly, the development cost of a jet fighter through the prototype stage is likely to be from \$5,000,000 to \$10,000,000.

The construction of prototypes is the stage in the research and development process where costs run highest. Research must, therefore, be well planned and results meticulously checked through all the earlier stages in order that costly errors may be avoided in the prototype phase.

We have this bill before us this afternoon. The fact that this bill in quite similar form had passed in the other body in May 1948 was known to the members of the Commission when it made that recommendation. We can take judicial notice of that fact. I think it is compelling evidence to those of us who can see in that Commission's recommendations perhaps the only solution to the fiscal mess we are in. It is the bill I sincerely believe will accomplish the purposes recommended both by the President's Board and the Hoover Commission.

Let me turn to still another phase of this which I think is important.

Mr. TABER. Mr. Chairman, will the gentleman yield for a question?

Mr. HESELTON. Gladly. Just as soon as I complete this one point.

On page 173 of this report of the President's Board entitled "Science and Public Policy," there is the only breakdown I know of which is available for our consideration of this problem of the division between basic research and applied research or development; and if you go through the budget you find practically no agency, down to the smallest, that does not have some kind of research undertaken. It is easy and apparently popular to label some appropriation item "research." Then the door is wide open. It may be important and necessary. It may be relatively unimportant. And it may be a senseless, extravagant waste of time and money. And remember all the evidence is to the effect that no one knows how much is good, indifferent, or bad. I personally suspect that a very great deal of it would not be countenanced by any reputable scientist. I think it entirely possible that the National Science Foundation would find in the rest of Government much more than the 82 millions the national defense is eliminating which would be discarded without injuring anything but actually improving the Federal program by unchaining talented scientists and placing them in sound programs.

I have made reference to the report of the President's Scientific Research Board. This Board was created by Executive Order 9791, dated October 17, 1946. As it was first constituted, it consisted of John R. Steelman, Chairman; Robert F. Patterson, Secretary of War; James Forrestal, Secretary of the Navy; Julius A. Krug, Secretary of the Interior; Clinton P. Anderson, Secretary of Agriculture; W. Averell Harriman, Secretary of Commerce; John D. Goodloe, Administrator, Federal Loan Agency; Watson B. Miller, Administrator, Federal Security Agency; Maj. Gen. Philip B. Fleming, Administrator, Federal Works Agency; Charles R. Denny, Jr., Chair-

man, Federal Communications Commission; Dr. Jerome C. Hunsaker, Chairman, National Advisory Committee of Aeronautics; Dr. Vannevar Bush, Director, Office of Scientific Research and Development; David Lilienthal, Chairman, Atomic Energy Commission; Gordon R. Clapp, Chairman, Tennessee Valley Authority; Gen. Omar N. Bradley, Administrator, Veterans' Administration; J. Donald Kingsley, executive secretary.

Board of Alternates: Maj. Gen. H. S. Aurand, Director, Research and Development Division, General Staff, War Department; John Nicholas Brown, Assistant Secretary for Air; Rear Adm. Paul F. Lee, Chief, Office of Naval Research, Department of the Navy; Dr. Thomas B. Nolan, Assistant Director, Geological Survey, Department of the Interior; Dr. W. V. Lambert, Director, Agricultural Research Administration, Department of Agriculture; Dr. Edward U. Condon, Director, National Bureau of Standards, Department of Commerce; Miss Mary E. Switzer, Special Assistant to the Administrator, Federal Security Agency; Herbert S. Fairbank, Deputy Director, Federal Works Agency; Carroll L. Wilson, General Manager, Atomic Energy Commission; E. K. Jett, Commissioner, Federal Communications Commission; John P. Ferris, Director of the Commerce Department, Tennessee Valley Authority; John W. Crowley, Jr., Acting Director of Aeronautical Research, National Advisory Committee for Aeronautics; Dr. Paul R. Hawley, Chief, Medical Division, Veterans' Administration; Dr. Edward Cushing, Medical Division, Veterans' Administration; John T. Cox, Jr., Administrative Officer, Office of Rubber Reserve, Reconstruction Finance Corporation; Dr. Eugene W. Scott, Deputy Director, Programs Division, Joint Research and Development Board.

Its reports to the President were in five volumes, three dealing with the Federal Government's special role in the Nation's total science effort, a fourth with the problem of science and technical manpower and final report discussing research and allied science both in the Government and in the Nation at large. These reports contain a wealth of statistics and other material from which Members can obtain concrete and convincing evidence of the preeminent necessity of action in this field.

Let me read just a few sentences from the opening part of the first report:

The security and prosperity of the United States depend today, as never before, upon the rapid extension of scientific knowledge. So important, in fact, has this extension become to our country that it may reasonably be said to be a major factor in national survival.

A generation which has witnessed the awful destructiveness of the atom bomb—

And I might insert here, has now learned of the hydrogen bomb—

or which has read newspaper accounts of developments in biological warfare needs no special demonstration of the relation of science to military preparedness. In the war the laboratory became the first line of defense and the scientist, the indispensable warrior. There is no likelihood that this would be changed in the event of another conflict.

It is unfortunate that any part of the case for Federal support of science should rest upon its military importance. But no responsible person can fail to recognize the uneasy character of the present peace. The scientific isolationism which inevitably results increases the urgency of Federal support for science and influences the balance in any recommended program.

Scientific discovery is equally the basis for our progress against poverty and disease. This alone would provide adequate justification for public interest and support.

If we are to remain a bulwark of democracy in the world, we must continually strengthen and expand our domestic economy and our foreign trade. A principal means to this end is through the constant advancement of scientific knowledge and the consequent steady improvement of our technology.

Throughout most of our history, the living standards of our people were raised by expanding our land area and bringing more and more acres under cultivation. That route has now been substantially closed for more than a generation, and we have increased our productivity through an advancing technology. The processes and machines we use in our factories, the ways in which we raise and preserve our food, all derive from theoretical discoveries in the various sciences. The technology in which we excel and which has transformed us in some 80 years from a backward agricultural nation to a world power rests upon progress in the basic sciences. Only through research and more research can we provide the basis for an expanding economy, and continued high levels of employment.

Our technology is sufficiently advanced and our resources sufficiently adequate so that there is no immediate prospect that we shall fall technologically behind. We shall in the future, however, have to rely largely upon our own efforts in the basic sciences to provide the basis for that improvement. The danger lies in the future.

As a people, our strength has lain in practical application of scientific principles, rather than in original discoveries. In the past, our country has made less than its proportionate contribution to the progress of basic science. Instead, we have imported our theory from abroad and concentrated on its application to concrete and immediate problems. This was true even in the case of the atomic bomb. The basic discovery of nuclear fission was made by Otto Hahn and F. Strassman in Germany, founded on preliminary research in Italy, and published in a German periodical in January, 1939, just before the laboratories of Europe went dark.

That free exchange of ideas which formerly permitted us to import to meet our needs no longer prevails. Europe's laboratories are still blacked out and are likely to remain so as long as the unsettled state of the world continues. In many parts of Europe, scientists have been dispersed or slaughtered, laboratories wrecked, intricate and unique equipment destroyed. In others an iron curtain has been drawn around the work of the scientists. The strong nationalism, characteristic of these times, and the isolationism of science that results is a further barrier. The unity of western civilization has been shattered, and for the first time in our history, we are on our own so far as the extension of knowledge is concerned.

Let me quote just one more piece of evidence from these reports. It is pointed out in that most major nations of the world recognize the essential importance of science to them and are expanding their research and development budgets and then it is stated:

The Soviet Union's 1947 budget is reported to provide \$1,200,000,000 as compared with outlays of \$900,000,000 in 1946.

Compare that to our actual 1949 expenditures of \$940,000,000.

The report goes on to say:

In addition, the Russians have embarked—

And this was in 1947—

upon a 5-year program of stepped-up scientific training, under which they are reported to be producing 140,000 engineers and scientists each year.

Compare that with the fact that in 1930 we had 49,000 scientists and technicians, 92,000 in 1940, and then in June 1947 our universities and colleges graduated only 35,000 bachelors and 1,300 to 1,400 doctors of science.

This bill deals specifically and constructively with a means of encouraging the education of more of our young men and women in this vital field. While I certainly respect the integrity, sincerity, intelligence, and ability of my colleagues who are inclined to oppose this legislation, I earnestly suggest that some of these facts in the light of the almost unanimous opinion of our responsible leaders in national defense, in the educational field, and in the business world should carry great weight with us in reaching our final decision.

Now, let me turn to the Hoover Commission Report, filed with Congress on March 25, 1949. As you all know there were certain differences of opinion among the Commissioners as to a number of the reports, but this was the unanimous report and recommendation of the 12 Commissioners. The full report on Federal research is not long and I commend it to you as additional and extremely important evidence.

For my part, I wish now to quote only certain excerpts which I believe to be of vital importance in our consideration of this legislation:

INTRADEPARTMENTAL RESEARCH

The report of the Scientific Research Board makes it plain that a satisfactorily coordinated research program for the National Government has not yet been realized.

A number of such staff groups is now in operation. These groups include the Agricultural Research Administration, the Office of Naval Research, the Office of Research Planning of the Public Health Service, and the Research and Development Division of the Department of the Army's General Staff.

Effort along these lines within individual agencies is not enough. There is need for an organization to facilitate the development of research policy for the Federal Government as a whole. This was recognized in the report of the President's Scientific Research Board. That Board recommended, as a first step, the establishment of an interdepartmental Committee on Scientific Research and Development. Such a committee was created by Executive order in December 1947. It was directed to further the most effective administration of scientific research and development activities in the Federal Government, and was authorized to submit recommendations on research policy and administration directly to the President.

The full potentialities of this committee have not been realized since its members have not as yet attacked major problems of research policy for the Federal Government as a whole. This may be due in part to lack of staff and funds.

CREATION OF A NATIONAL SCIENCE FOUNDATION

This points to the need for a National Science Foundation. The major functions of such a foundation should be (a) to exam-

line the total scientific research effort of the Nation, (b) to assess the proper role of the Federal Government in this effort, (c) to evaluate the division of research effort among the scientific disciplines and among fields of applied research, and (d) to evaluate the key factors that impede the development of an effective national research effort. Based upon its investigations, it should advise the President as to the measures necessary to establish a sound scientific research program for the Nation.

The National Science Foundation should consider most carefully the manner in which national policies with respect to scientific research are related to broader questions of educational policy. At present grants for research purposes are being made on a hit-and-miss basis, making the award of research grants, in effect, a new form of patronage. The awarding of research grants must be put upon a more systematic basis, with due recognition given to their impact on the educational programs of our higher institutions of learning.

Finally, the Commission made two recommendations. The second is the important one for our consideration at this time. It was:

The Commission recommends that—
b. A National Science Foundation be established.

I shall put in the RECORD—and I regret I did not have it completed yet—some material I think will convince you that we are duplicating now; that we are making unnecessary and unwise expenditures, and that the only way we can control it is the same way that the Department of Defense is controlling it in that important field, and that our hope lies in the National Foundation, not with many of these other Departments with their constantly increasing demands for more funds for their pet research programs, many of which they cannot explain today. These are their analyses developed from the budget as to what has been done and what is recommended, from reports as to pending legislation in this field, and as to research activities in the health field under the Public Health Service. The latter is not intended as criticism. It is entirely possible that every activity is useful and should receive even stronger support. It is only to place before you the evidence as to the breadth of the activity in the Federal Government and to urge that there is an imperative necessity for a National Science Foundation to evaluate the entire activity and to advise us upon the proper course of action we should take in the future.

These analyses follow:

SELECTED ITEMS FROM 1950 BUDGET TO ILLUSTRATE BREADTH OF ACTIVITIES UNDER RESEARCH

<i>Department of the Interior</i>	
Bureau of Reclamation: Engineering and economic investigation, 1950.....	\$461,500
Bureau of Mines: Scientific and technical research, 1950.....	18,135,807
National Park Service—Historical and archeological research without break-down—Fish and Wildlife Service:	
Research on fish and fisheries.....	1,736,000
Research on birds and mammals.....	476,700
Total.....	20,810,007

Department of Labor

Child Labor and Youth Employment Research, 1950.....	\$108,634
Bureau of Labor Statistics, 1950: The Bureau, a research and statistical organization.....	5,493,700
Bureau of Consumers Price Index, 1950.....	1,126,000
Wage and Hour Division, 1950.....	142,000
Total.....	6,870,334

Post Office Department

Research and development program, 1950, under act of Aug. 16, 1949, Public Law 231.....	\$74,000
(Estimate of \$151,900 previously carried on under this title transferred to "General administration.")	
Total.....	74,000

State Department

Scientific and technical programs, 1950.....	\$301,926
Some part of Philippine Rehabilitation, over-all, 1950.....	14,061,350
Some part of Institute of Inter-American Affairs, 1950.....	5,992,600
Total.....	20,355,876

Treasury Department

Division of Tax Research, 1950.....	\$137,600
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Other departments

Atomic Energy Commission, Physical Research, 1950.....	\$31,377,238
Federal Communications Commission: Applied technical research and frequency allocation, 1950.....	383,023
General Accounting Office: Development installation and evaluation of accounting systems, 1950.....	1,017,944
Interstate Commerce Commission: Collection and analysis of accounting and statistical data, 1950.....	873,840
National Advisory Committee for Aeronautics, 1950.....	43,000,000
Smithsonian Institution Research, 1950.....	178,250
Tariff Commission: Assembly and analysis of basic tariff, production and trade data, 1950.....	358,764
Department of Commerce: Bureau of Foreign and Domestic Commerce; same general fields and objectives as Tariff Commission, 1950.....	5,017,058
Maritime Commission: Design and construction of prototype vessels, 1950, estimated cost (design and construction of naval auxiliary prototype vessels, estimated cost, 1951, \$10,000,000).....	4,744,000
Reconstruction Finance Corporation:	
Expense for research and maintenance of synthetic rubber stand-by plants.....	8,300,000
Synthetic rubber program, research and development.....	3,000,000
TVA: Fertilizer and munitions research, R. & D.....	4,879,000
Food and Drug Administration, some part of research and development, 1950.....	708,725
Howard University: Resident instruction and departmental research; some part of research and development, 1950.....	2,478,125
Federal Security, Office of Education: Collection and analysis of statistics and grants-in-aid, 1950.....	100,915

Other departments—Continued

<i>Public Health Service:</i>	
Clinical and laboratory research and grants-in-aid, 1950.....	\$596,476
Control of tuberculosis—cooperative applied research, 1950.....	721,996
General health studies, etc., 1950.....	16,720,292
Control of communicable diseases studies, etc., 1950.....	3,070,030
Disease and sanitation investigation and control, Alaska, 1950.....	1,317,000
Hospital construction, grants for research, experiments, and demonstration, 1950 (1951, \$1,000,000).....	-----
National Institutes of Health, Basic Research, 1950.....	11,844,137
National Cancer Institute, 1950.....	20,916,000
Mental Health, 1950.....	9,620,794
National Heart Institute, 1950.....	16,161,500
Dental Health, 1950.....	1,934,000
Arctic Health Institute, 1951, estimate \$975,000.....	-----
Total.....	189,319,107

Federal Security Administration

<i>Children's Bureau, Research in Child Life:</i>	
1949.....	-----
1950.....	\$86,826
1951.....	88,721
<i>General Services Administration, Geophysical Institute, Alaska:</i>	
1949.....	979,000
1950.....	875,000
1951.....	-----
(Plus \$6,625,000 contract authority.)	
<i>Expansion Public Health Service, Bethesda:</i>	
1949.....	6,723,729
1950.....	30,320,000
1951.....	10,700,000
<i>Research Facilities, National Institute of Dental Research:</i>	
Building 1950.....	85,000
Limit.....	2,000,000
<i>Housing and Home Finance Agency, Housing Research Program:</i>	
1949.....	332,000
1950.....	2,318,000
1951.....	3,318,000

Department of Agriculture, Solicitor's Office

<i>Lands, forestry research, and general legal services:</i>	
1949.....	\$528,466
1950.....	535,300
1951.....	560,900
<i>Agricultural Research Administration:</i>	
1949.....	2,536,044
1950.....	2,503,900
1951.....	913,500
(Working capital fund to be established in 1951, \$1,500,000.)	
<i>Special research fund:</i>	
1949.....	1,278,856
1950.....	1,262,600
1951.....	1,272,800
<i>Research on strategic and critical agricultural materials:</i>	
1949.....	353,408
1950.....	354,800
1951.....	517,500
<i>Research on agricultural problems of Alaska:</i>	
1949.....	434,943
1950.....	673,800
1951.....	316,200

Department of Agriculture, Solicitor's Office—Continued	
Experiment stations:	
1949-----	\$239,517
1950-----	236,250
1951-----	238,450
Federal Experiment Station, Puerto Rico:	
1949-----	139,719
1950-----	147,800
1951-----	160,950
Bureau of Animal Industry:	
1949-----	1,491,109
1950-----	1,336,400
1951-----	1,567,100
Research of Diseases of Animals:	
1949-----	1,128,298
1950-----	1,098,700
1951-----	1,271,700
For eradicating tuberculosis and Bangs disease:	
1949-----	6,144,476
1950-----	6,316,700
1951-----	0
Research under foot-and-mouth disease control:	
1949-----	258,000
1950-----	0
1951-----	0
Bureau of Dairy Industry:	
1949-----	1,145,038
1950-----	1,116,000
1951-----	1,371,000
Bureau of Plant Industry, Soils, and Agricultural Engineering:	
1949-----	2,958,464
1950-----	2,846,800
1951-----	2,971,000
Research of field crops:	
1949-----	2,614,688
1950-----	2,413,580
1951-----	2,649,950
Fruit, vegetable, and specialty crops:	
1949-----	2,606,211
1950-----	2,406,600
1951-----	2,644,000
Forest diseases:	
1949-----	421,359
1950-----	442,440
1951-----	473,700
Soils, fertilizers, and irrigation:	
1949-----	2,152,671
1950-----	2,424,500
1951-----	2,709,570
Agricultural engineering:	
1949-----	793,280
1950-----	870,670
1951-----	1,047,610
Bureau of Plant Industry, Soils and Agricultural Engineering: Rubber Investigations:	
1949-----	\$1,420,396
1950-----	1,843,600
1951-----	1,885,800
Bureau of Entomology and Plant Quarantine:	
1949-----	3,340,184
1950-----	3,648,100
1951-----	4,021,000
Insects and plant disease control:	
1949-----	4,180,849
1950-----	4,700,500
1951-----	4,752,000
Foreign plant quarantines:	
1949-----	2,294,248
1950-----	2,364,000
1951-----	2,618,000
Citrus blackfly:	
1949-----	1,212,227
1950-----	1,175,600
1951-----	1,837,500
Bureau of Agricultural and Industrial Chemistry:	
1949-----	5,845,124
1950-----	5,728,525

Department of Agriculture, Solicitor's Office—Continued	
Bureau of Agricultural and Industrial Chemistry—Continued	
1951-----	\$5,807,000
Agricultural chemical and naval stores investigation:	
1949-----	628,657
1950-----	655,925
1951-----	-----
Regional research laboratories:	
1949-----	5,197,372
1950-----	5,072,600
1951-----	-----
Synthetic liquid fuels project:	
1949-----	73,742
1950-----	81,860
1951-----	115,000
Bureau of Human Nutrition and Home Economics:	
1949-----	900,170
1950-----	919,200
1951-----	1,370,500
Forest Service:	
Forest and range research:	
1949-----	2,858,657
1950-----	2,719,919
1951-----	2,761,735
Forest products:	
1949-----	1,212,931
1950-----	1,205,500
1951-----	1,216,100
Soil Conservation Service: Soil conservation research:	
1949-----	1,650,188
1950-----	1,452,800
1951-----	1,467,850
Production and Marketing Administration: Marketing research:	
1949-----	1,138,274
1950-----	1,168,477
1951-----	1,197,468
Farm Credit Administration: Research and technical assistance:	
1949-----	493,962
1950-----	491,200
1951-----	547,000

Department of Commerce	
Bureau of Census:	
1949-----	\$5,581,717
1950-----	5,865,000
1951-----	6,585,000
Civil Aeronautics Administration: Research and development of airway facilities:	
1949-----	91,243
1950-----	7,000,000
1951-----	9,948,000
Coast and Geodetic Survey: Earthquake investigation:	
1949-----	110,943
1950-----	111,300
1951-----	112,300
Bureau of Public Roads: Testing and research laboratories:	
1949-----	552,083
1950-----	447,917
1951-----	-----
(Funds for continuing of construction at Langley, Va., contained in appropriation of Independent Offices Appropriation Act of 1949, provided by an appropriation of \$1,000,000 in above act.)	
National Bureau of Standards:	
Research and testing:	
1949-----	\$4,891,657
1950-----	5,019,388
1951-----	4,729,000
Radio propagation and standards:	
1949-----	3,042,870
1950-----	3,100,000
1951-----	3,153,000

Department of Commerce—Continued	
National Bureau of Standards—Continued	
Construction and equipment, Radio Laboratory and Guided Missiles Laboratory:	
1949-----	-----
1950-----	-----
1951-----	\$6,375,000
Weather Bureau Research:	
1949-----	681,756
1950-----	626,366
1951-----	780,726
Department of the Army	
Research and development:	
Quartermaster Corps, 1950, estimate-----	\$8,194,209
Transportation Corps, 1950, estimate-----	691,348
Signal Corps, 1950, estimate-----	25,208,072
Medical Corps, 1950, estimate-----	3,551,396
Corps of Engineers, 1950, estimate (1950 program: 235 projects, 35 scheduled for completion)-----	5,877,351
Ordnance Department, 1950, estimate-----	49,017,897
Chemical Corps, 1950, estimate-----	102,032
Total-----	92,642,305

Department of the Navy	
(Navy personnel—applied research program to develop more effective methods for utilizing human resources to military requirements)	
Research and development:	
Aircraft facilities, 1950, estimate-----	\$77,853,434
Ships and facilities, 1950, estimate-----	23,138,000
Ordnance and facilities, 1950, estimate-----	59,672,904
Medical care, 1950, estimate-----	2,767,770
Civil engineering, 1950, estimate-----	902,000
Engineering research facilities—operating and maintaining facilities engaged in civilian engineering research and development programs such as advance base proving ground, Port Hueneme and Arctic test station, Point Barrow, Alaska, 1950-----	1,872,420
Research, 1950-----	46,497,500
Service-wide supply and finance, 1950, estimate-----	958,093
Service-wide operations—refers to research and development without break-down at naval observatory-----	-----
Total-----	213,662,121

Department of the Air Force	
Research and development, 1950-----	\$213,641,584
National Defense	
Department of the Army-----	\$92,642,305
Department of the Navy-----	213,662,121
Department of the Air Force-----	213,641,584
Total-----	519,946,010

SOME PENDING LEGISLATION DIRECTLY OR INDIRECTLY DEALING WITH RESEARCH ACTIVITIES

MEDICAL RESEARCH INSTITUTES (S. 2591, H. R. 3943)
 Numerous bills were introduced to establish separate research institutes for arthritis,

multiple sclerosis, blindness, etc. The Public Health Service opposed such continued proliferation of separate research institutes within the Public Health Service. This bill was devised as a compromise solution. It established two new institutes, one on arthritis, rheumatism, and metabolic diseases and another on blindness and neurological diseases including multiple sclerosis, epilepsy, and cerebral palsy. Also, the Surgeon General is given additional authority to expand or contract research programs. This bill passed the Senate and is pending in the health subcommittee of the House Committee on Interstate and Foreign Commerce. The House health subcommittee completed its public hearings on June 23, 1949, but did not take action on the bill.

STUDY OF CHRONIC AND DISABLING DISEASES
(S. 2584)

This bill authorizes the appropriation of \$200,000 to enable the Public Health Service to study and report to Congress on the best methods of obtaining periodic estimates of the amount and distribution of chronic diseases, injuries, and handicapping conditions. This bill passed the Senate and was referred to the health subcommittee of the House Interstate and Foreign Commerce Committee.

FAMILY ASPECTS OF CHRONIC ILLNESS
(S. CON. RES. 17)

This bill declares it to be the sense of Congress that research on the familial aspects of chronic illness and investigation of practical methods of furnishing family health services should be expanded and intensified. Accordingly, the bill directs the United States Public Health Service to extend its activities toward this end. It passed the Senate and is now pending before the health subcommittee of the House Interstate and Foreign Commerce Committee.

UNITED MEDICAL ADMINISTRATION (S. 2008, H. R. 5182)

This bill carries out the Hoover Commission proposal for a new United Medical Administration to provide for medical care, public health, and medical research. In it would be consolidated most of the large-scale activities of the Federal Government in the fields of medical care, medical research, and public health, including Federal hospital facilities. The Public Health Service would be transferred from the Federal Security Agency. Also, responsibility for furnishing medical and hospital care for veterans would be transferred from the Veterans' Administration. No hearings were held on these bills.

CHILD LIFE RESEARCH (S. 904, H. R. 4465)

This bill would broaden the mandate of the United States Children's Bureau to investigate and report upon all matters pertaining to the welfare of children and child life, and extend its powers and duties to implement this responsibility. For this phase of its work the Children's Bureau received an appropriation of \$571,000 this year. This bill calls for the appropriation of \$7,500,000 for the first year to be used for research and demonstrations in child life and development, research fellowships, training and instruction in pediatrics and in child life and development, and the development of a national clearing house for information on current and proposed researches and studies. Hearings were held by the Senate Labor and Public Welfare Committee, but no further action was taken on the bill. In the House the bill was referred to the health subcommittee of the Interstate and Foreign Commerce Committee which took no action on the measure.

SURVEY OF PHYSICALLY HANDICAPPED PERSONS
(S. 458, H. R. 3937)

This bill authorizes \$5,000,000 to enable the Bureau of the Census to make a survey of the number and characteristics of physi-

cally handicapped persons. It was reported favorably in the Senate but was not called up for action. In the House the Post Office Committee took no action on the bill after receiving unfavorable reports from the Federal Security Agency and the Bureau of the Budget.

LOCAL PUBLIC HEALTH UNITS (S. 522, H. R. 5865)

This bill authorizes increased Federal aid to encourage and assist each State in establishing and maintaining a network of local public health units organized to provide basic full-time public health services in all areas of the State. Public health services is defined to include services dealing with the diagnosis and prevention of disease, the control of communicable diseases, health education, demonstrations, sanitation, vital statistics, the training of personnel for State and local public health work and other aspects of preventive medicine. The bill was passed by the Senate without a dissenting vote. In the House, hearings were held on this subject by the health subcommittee of the House Committee on Interstate and Foreign Commerce which reported the bill for consideration by the full committee.

SCHOOL HEALTH SERVICES (S. 1411, H. R. 3942)

This bill authorizes \$35,000,000 a year for Federal grants to aid the States in developing health services for children of elementary and secondary school age. The bill calls for periodic medical and dental examinations for all school children, with treatment of conditions whenever the parents are unable to provide such treatment. Treatment for all children, regardless of the economic status of parents, is left to the option of each State. Services would be available to children attending public and parochial schools. In a State whose constitution or laws prohibit the use of public funds by private schools, the Federal Security Administrator would make grants directly to the private schools instead of through the State agency. This bill passed the Senate without a dissenting vote. In the House hearings were held by the health subcommittee of the House Interstate and Foreign Commerce Committee which reported the bill for reconsideration by the full committee.

MATERNAL AND CHILD HEALTH SERVICES

The United States Children's Bureau administers grants to the States (\$11,000,000 annually) for maternal and child health services such as prenatal clinics, public health services, well-child clinics, immunizations, and examinations of children of school age by physicians and dentists. In addition, the Bureau makes grants to the States for services to crippled children which includes locating them, diagnosing their crippled condition, and providing or locating skilled care for them. Legislation was introduced to increase the amounts of each of these appropriations to \$25,000,000 for the first year with no ceiling on appropriations thereafter. This proposal is included in part B, title VI, of article 1679, as well as in S. 2352, H. R. 5835. In the course of the extended public hearings in both branches of Congress on the major health bills, consideration was given to this proposal, but no action was taken.

MEDICAL AND HEALTH PERSONNEL TRAINING
(S. 1453; H. R. 5940)

These bills would establish an emergency 5-year program to increase the number of trained personnel in medicine, nursing, dentistry, dental hygiene, hospital administration, and public health. Eligible schools would receive Federal grants to help meet costs of instruction, with incentives for increasing enrollments. Grants would also be made for establishing new schools and expanding existing ones. Over the 5-year period, Federal grants would average over \$55,000,000 a year. The Senate passed the bill (S. 1453) without a dissenting vote. A

similar bill (H. R. 5940) was reported favorably to the House, except that it includes assistance to schools of optometry. When Congress adjourned, the bill was still before the House Rules Committee.

**RESEARCH ACTIVITIES OF THE UNITED STATES
PUBLIC HEALTH SERVICE**

**HOSPITAL PLANNING AND CONSTRUCTION
SERVICES**

The appropriation for this item finances the direct expenses of the Public Health Service under the hospital construction program.

Technical services: The Service assists the States and their communities in making inventories of their hospitals and health centers, determining the additional facilities required, and developing a coordinated program to meet the indicated need. Proposed hospital and medical center projects for which Federal financial help is requested are reviewed to determine eligibility for assistance, and the project plans and specifications are reviewed for compliance with construction standards. To assure adequate facilities and adherence to cost limits, technical assistance is provided on architectural and engineering aspects. The Service is also authorized by recent legislation to conduct research, experiments, and demonstrations toward the effective development and utilization of hospital services, facilities, and resources. Funds are included for initiating this program. The budget includes \$1,605,862 for these activities—\$601,702 more than the current year's appropriation.

Cooperative applied research: In cooperation with States, medical schools, and private investigators, the Service conducts studies of the effectiveness of BCG vaccine for the prevention of tuberculosis and of problems in epidemiology, diagnosis, prognosis, immunology, and therapy of tuberculosis. In addition, the Service makes related studies of chest X-ray interpretation and the development and application of radiological equipment. The 1951 estimate provides for an expansion of BCG vaccine studies in Puerto Rico to include preschool children. The estimated cost of this expanded program is \$256,000—an increase of \$134,004.

NATIONAL INSTITUTES OF HEALTH

The purpose of the activities financed from this appropriation is to foster and conduct research in fundamental problems in microbiology, communicable diseases, community health, pathology and pharmacology, physiology, biochemistry and nutrition, chemistry and chemotherapy, physical biology, and other fields.

Grants to medical schools and other institutions and to individuals for research and training: The current year's appropriation of \$5,995,000 is supporting approximately 565 research projects, averaging \$9,700 a project, and 170 research fellowships, averaging \$2,940 each. The 1951 program calls for an increased appropriation of \$7,165,000 and contemplates a sizable expansion in research grants, particularly for support of extensive investigations in a new field of medical research recently opened up by discovery of the therapeutic activity of certain steroid compounds, including cortisone and adrenocorticotrophic hormone (ACTH), which promises beneficial effect in the treatment of rheumatoid arthritis and other diseases. Of the proposed appropriation, \$6,650,000 is for research projects, and \$515,000 (same as current year) is for research fellowships.

Headquarter research program: An appropriation of \$5,107,000 is proposed to support basic research in fundamental physiological and biochemical processes, in infectious and tropical diseases, and in biologics. The 1951 estimate contemplates expansion of studies of the causes and possible cures for the crippling diseases of the bones and joints,

with particular emphasis on rheumatoid arthritic, including research in cortisone, ACTH, and related compounds. Proposed increases are partially offset by the discontinuation of yellow-fever vaccine production by 1951.

NATIONAL CANCER INSTITUTE

Approximately 200,000 people died from cancer in 1948. It is estimated that 600,000 people are presently under treatment for cancer and that 375,000 new cases are diagnosed each year. The activities financed from this appropriation have three major purposes:

1. To foster and conduct research in the causes of the various types of cancer and in the development of improved methods of detection, diagnosis, and treatment.

2. To improve teaching in cancer problems and increase the supply of personnel trained for cancer work.

3. To assist in development and maintaining detection, diagnostic, and home-care services at the local level.

The proposed appropriation will permit continuation of this program at about the present level.

Grants for research and training: The budget includes appropriations as follows for grants to medical and dental schools and other institutions and to individuals for cancer research and training:

260 research projects-----	\$2,600,000
155 research fellowships-----	500,000
105 training stipends-----	375,000
Teaching of medical subjects--	2,250,000

All of these amounts are the same as for the current fiscal year. They provide teaching grants of \$25,000 to each of 72 recognized 4-year medical schools and of \$5,000 to each of 47 recognized dental schools and 2-year medical schools. No new cash or contract authority is provided to assist institutions in the construction of cancer-research facilities; \$5,000,000 is included to liquidate prior-year commitments.

Grants to States for detection, diagnosis, and other control services: The sum of \$3,500,000 is proposed for grants to all States to strengthen State and local clinical and educational services.

Grants for special control projects: Seventy-one special control projects receive financial assistance through special grants of Federal funds (\$1,000,000) to State and local health agencies, universities, hospitals, and nonprofit professional organizations to develop, initiate, or establish improved types of cancer-control techniques and devices.

Federal research and services: The budget calls for an appropriation of \$3,756,000 (compared with \$3,663,863 this year) for Federal cancer-research activities. Other direct operations, including consultative services to States in the development of their programs would continue at their present levels.

MENTAL-HEALTH PROGRAM

Approximately half of the beds in the Nation's hospitals are occupied by the mentally ill. A relatively large percentage of those seeking medical attention have conditions which are influenced by some form of emotional disorder. The activities financed from this appropriation have three major purposes:

1. To foster and conduct research in the causes of the various mental and neurological diseases and in the development of improved methods for their prevention, detection, diagnosis, and treatment.

2. To improve teaching in mental health and increase the supply of personnel trained for mental-health work.

3. To assist in the development and maintenance of preventive, diagnostic, and outpatient clinical services at the local level.

Grants to States for control services: The budget calls for the appropriation of \$3,550,000 (same as current year) for grants

to the States for detection, diagnosis, and other preventive and control activities. Federal grants have resulted in the initiation of mental-health programs in 27 States, and the expansion of such programs in 24 others. Programs include preventive and educational activities, professional services, clinical services, and training of State and local mental-health personnel.

Grants for research and training: The budget calls for increased grants to medical schools and other institutions, and to individuals for research and training as follows:

	Current year	Next year
Research projects-----	\$794,000	\$1,100,000
Research fellowships-----	100,000	200,000
Expansion of graduate teaching grants for teaching of subjects relating to mental illness-----	1,950,500	2,299,000
Training stipends-----	900,000	1,050,000

While the current year's appropriation includes grants of \$10,000 each to 42 medical schools for undergraduate teaching in psychiatry, the 1951 estimate provides no funds for expanding this activity on the assumption that Congress will pass general legislation providing aid to medical schools.

Federal research: The proposed appropriation includes funds (\$599,300 compared with \$329,200 for the current year) for Federal research activities including:

1. Research in narcotic and barbiturate addiction.

2. Epidemiological field research in multiple sclerosis.

3. A field study in Phoenix, Ariz., to determine the mental health needs of an urban community with a heterogeneous population.

4. Initiation and expansion of neurological research, a new program of research in schizophrenia, and preliminary studies of the effects of cortisone and acth in nervous and mental disorders.

NATIONAL HEART INSTITUTE

Heart diseases constitute one of the leading causes of death. The activities financed from this appropriation have three major purposes:

1. To foster and conduct research in the causes of the various diseases of the heart and circulation and in the development of improved methods for their detection, diagnosis, and treatment.

2. To improve teaching in cardiac problems and increase the supply of personnel trained for research and treatment of heart diseases.

3. To assist in the development and maintenance of detection, diagnostic, and home care services at the local level.

Grants for research and training: The proposed appropriations for grants to medical schools and other institutions and to individuals for research and training are the same as the current year's, with one exception. While the 1951 estimate provides \$5,350,000 to liquidate last year's commitments for the construction of research facilities, no new contract authority for this purpose is given. Grants would be made as follows:

Research projects-----	\$3,820,000
Research fellowships-----	300,000
Expansion of teaching of medical subjects relating to heart diseases-----	741,000
Training stipends-----	150,000

Grants for control activities: The sum of \$2,000,000 (same as current year) is proposed for grants to States for detection, diagnosis, and other control activities. Under this program, the States find and refer cardiac patients for diagnosis and treatment, provide services to heart-disease patients in their

homes, furnish training opportunities to physicians and public-health workers in cardiac problems, and supply public information.

Federal research: An appropriation of \$1,830,354 is proposed, compared with \$1,407,939 for the current year, for Federal research in the development of diagnostic and case-finding instruments, the peripheral vascular system, kidney and electrolyte metabolism, high blood pressure, gerontology, rheumatic heart disease, therapeutics, and epidemiology.

DENTAL HEALTH ACTIVITIES

The activities financed from this appropriation have three major purposes:

1. To foster and conduct research in the causes and prevention of dental diseases and in the development of improved methods for their diagnosis and treatment.

2. To increase the supply of personnel trained for dental health work and improve the utilization of dental health personnel now available.

3. To assist in the development and maintenance of preventive and clinical programs at the local level.

Grants for research and training: The fund for grants to dental schools and other institutions and to individuals for research and training would be increased to \$325,000, compared with \$235,000 for the current year.

Federal research: The proposed appropriation of \$329,225 (\$237,320 this year) provides for expansion of research into the cause and possible cure of transient bacteremia, studies relating to the reattachment of supporting dental tissues destroyed in periodontal disease, and expansion of other studies in dental disease. Last year, Congress had appropriated \$100,000 for developing plans for the erection of a dental research building on the grounds of the National Institutes of Health in Bethesda, Md. It is proposed to postpone this project until it is found that this additional space is needed.

CONSTRUCTION OF RESEARCH FACILITIES

The Public Health Service is currently engaged in a major expansion of its medical research facilities at the National Institute of Health in Bethesda, Md. The principal building, now in its second year of construction, is the clinical center, a research laboratory equipped with 500 research beds for clinical research in cancer, heart, mental, metabolic, and infectious diseases. Its purpose will be to provide a medical center where the best quality of hospital care can be given all types of patients under scientific observation and where laboratory facilities for adjunct studies with animals are immediately accessible. The project also includes auxiliary structures to provide power, incineration, storage, laundry, animal breeding, and shops services for the entire National Institutes of Health. It is expected that the clinical center will be finished and equipped for operation by the close of 1952. The budget calls for the appropriation of \$15,125,000 which is in addition to the \$18,100,000 appropriated to date for this activity.

CONTROL OF VENEREAL DISEASES

The number of reported syphilis cases has declined from a peak of 592,941 in 1943 to 353,393 in 1948 and 300,975 in 1949. The activities financed from this appropriation have two major purposes:

1. To assist States and localities in case finding and treatment.

2. To develop an immunizing agent and more effective treatment and diagnostic agents and methods.

The budget calls for an appropriation of \$14,000,000 for the next fiscal year commencing July 1, 1950 (fiscal year 1951), compared with \$16,000,000 for the current fiscal year. Federal grants to the States for case finding and treatment would be \$1,670,000 less.

Grants for case finding, treatment, and other control activities: The proposed appro-

priation for such grants for the next fiscal year is \$6,835,000, compared with \$7,757,000. This estimate assumes that despite the reduction in Federal grants, the total of all Federal, State, and local expenditures in 1951 for these purposes will equal or exceed that of 1950:

1. Increases in State and local contributions are anticipated.

2. Significant increases in local services are expected to result from increased Federal grants for general public-health work.

3. Estimated decreases in State and local contributions for in-patient treatment is expected to release more State and local funds for case finding and out-patient treatment.

Grants for special in-patient treatment centers: Admissions have declined from a peak of 181,754 in 1947 to 160,066 in 1949, and average patient days per admission from 9.8 days in 1947 to 8.8 days in 1949. The forecasts of patient-day loads and estimates of the Federal share of costs in fiscal years 1950 and 1951 are as follows:

	1950	1951
Patient-days -----	1,280,000	1,100,000
Federal share of costs, \$3.90 per day-----	\$4,992,000	\$4,290,000

Grants for special case-finding projects: The budget calls for an appropriation of \$300,000, compared with \$346,000 for the current year. Continuing progress by States in achieving improved case-finding methods is expected to decrease the need for making Federal grants on a special project basis.

Technical assistance to States: The Public Health Service furnished assistance to the States in medical, nursing, and laboratory activities through field studies and demonstrations in improved case-finding methods and treatment, and through preparation and dissemination of scientific information affecting venereal diseases. The proposed appropriation for these purposes is approximately 10 percent less than for the current fiscal year.

CONTROL OF TUBERCULOSIS

The reported incidence of tuberculosis in this country remains high; 138,331 cases were reported in 1948. The activities financed from this appropriation have two major purposes:

1. To assist States and localities in case finding, diagnosis, and in placing cases under local medical supervision.

2. To determine the cause of the disease and the mode of its transmission and to develop improved methods of detection, diagnosis, and treatment as well as an effective immunizing agent.

The budget calls for an appropriation of \$9,600,000 which is slightly less than the current year's appropriation.

Grants to States for tuberculosis control activities: Federal grants to the States would be \$6,350,000—\$440,000 less than the amount available for the current year. This estimate assumes that despite the reduction in Federal grants, the total of all Federal, State, and local expenditures in 1951 for this purpose will equal or exceed that of 1950. Increased State and local contributions, and increased local health services which are expected to result from increased Federal grants for general public health work, are expected to offset the cut in Federal grants for this program.

Mass X-ray surveys in large cities: It is estimated that over two-thirds of the Nation's tuberculosis problem is concentrated in cities. In the last 4 years, the Public Health Service has taken chest X-ray films for 2,435,835 adults. Of that number, approximately 24,571 with a tentative diagnosis of tuberculosis have been referred to physicians for diagnosis and treatment. During 1950, the service is for the first time operating with two complete teams on a full-year

basis. Forecasts of work load and unit costs are as follows:

	1950	1951
Chest X-ray films--	2,479,362	2,900,000
Cost per film-----	46¢	43¢
Amount-----	\$1,140,508	\$1,247,000

Significantly lower-unit costs in 1950 and 1951 are expected to result from an increased volume of films and the introduction of improved methods and procedures.

Follow-up work after mass X-ray surveys: Mass X-ray surveys cause an increase in cases requiring follow-up, which is frequently five or six times the normal load. The facilities and personnel of local health departments usually cannot effectively take care of such a rapid increase. It is proposed, as a new program, to assign trained professional workers to local health departments in the two metropolitan-survey areas to be covered in 1951 for a specified period of time after the mass case-finding surveys to assist in final diagnosis and other follow-up work. The estimated cost is \$105,000.

CONTROL OF COMMUNICABLE DISEASES

Despite notable progress in recent years, many communicable diseases are not yet under control. This appropriation finances laboratory and field investigations and control operations designed to supplement and support the activities of the States and localities in the control of communicable diseases.

General communicable-disease control: This includes epidemiology, laboratory technological services, general veterinary public health activities, engineering, entomological and technical development activities, and training and production of training materials. The 1951 estimate provides increases for:

1. Improving the diagnostic methods and performance of State, local, and other non-profit laboratories.

2. Expanding epidemiological studies of the mode of transmission of virus diseases, streptococcal infections, and enteric diseases.

3. Expanding studies of the health hazards involved in the use of new insecticides, rodenticides, and other commercial poisons in the control of communicable diseases.

The budget includes \$2,600,000 for these purposes—an increase of \$150,000.

Investigation and control of specific communicable diseases: These diseases are malaria, typhus, plague, and other rat-borne diseases, rabies, leprosy, infant diarrheal diseases, poliomyelitis, encephalitis, and other virus diseases, and "Q" fever and other rickettsial diseases. The 1951 estimate reflects reductions in control operations for malaria and typhus of 42 and 56 percent, respectively, in accordance with morbidity rates which have sharply declined from their wartime and postwar peaks. Only partially offsetting increases are estimated for investigations of infant diarrheal diseases and encephalitis. The proposed appropriation of \$2,650,000 is \$1,055,000 less than the appropriation for the current fiscal year.

General epidemic and disaster aid: Emergency aid is furnished in disease epidemics and disasters which create problems beyond the capacity of State health departments. Seventeen States in which epidemics or disasters occurred in 1949 received aid from the communicable-disease center of the Service. The appropriation for this work is \$40,000.

SANITATION AND INDUSTRIAL HYGIENE

The purpose of the activities financed from this appropriation is to supplement and support the activities of States and localities in promoting and preserving the public health through control of the basic essentials of individual and community life—air, water, food, and shelter. The proposed appropriation is \$4,000,000—almost \$1,000,000 more than the amount available for the current fiscal year.

Water pollution control: The present program consists of the initial development and organization of activities authorized in the Water Pollution Control Act of 1948, including: technical and consultative services on prevention and abatement of water pollution; preparation of comprehensive river basin programs for pollution control; and field and laboratory investigations in devising and perfecting methods of testing for and treating certain industrial wastes. The 1951 estimate provides increases in funds for the further development of these activities to meet the objectives set forth in the act. The budget includes \$1,766,826 for this program—\$645,226 over the current year's appropriation. In addition, \$1,000,000 (same as last year) is proposed for grants to State and interstate water pollution agencies in order to assist them in the conduct of surveys, studies, investigations, and research related to the prevention and control of water pollution caused by industrial wastes.

Milk, food, and other sanitation activities: These include consultative and technical assistance to State and local authorities and laboratory and field investigations in sanitation of water, milk, shellfish, and other foods. The 1951 estimate provides increases for a new program of certifying interstate shipments of milk and for intensification of activities in shellfish sanitation. The budget includes \$715,000 for these activities—\$103,880 over the current year's appropriation.

Industrial hygiene: Technical and consultative services are furnished to States, local authorities, and industry, including assistance in establishing, conducting, and improving industrial hygiene services and in making atmospheric pollution studies. Research and investigations are undertaken in the evaluation of injurious and objectional chemical, physical, and biological agents used or produced in industrial processes, and in the development of control measures. The budget estimate of \$655,000 will permit operation of this program at approximately the current year's level.

Radiological health services: These include the collection, analysis, and dissemination of information relative to the hazards of handling, using, and disposing of radioactive substances and the training of personnel competent to render advisory services to Federal, State, and local authorities in radiological health problems. An increase in funds from \$60,000 for the current year to \$110,000 for the next fiscal year would permit the establishment of a radiological health training unit.

GENERAL PUBLIC HEALTH WORK

Latest available information indicated that little more than one-half of all counties are serviced by full-time local health units, and many of these are inadequately staffed. This means that most counties lack adequate services in one or more of such fundamental phases of public health as public health nursing, public health dentistry, control of communicable diseases, and sanitation. The basic purpose of this appropriation is to assist States in meeting the need for local health services as well as to provide financial support for State health services of a general character. The budget calls for the appropriation of \$26,425,000—an increase of more than \$9,000,000 over this year's appropriation.

Grants to States for general health: The proposed increase is primarily for assisting States to expand and strengthen local health services. The 1951 estimate of \$23,450,000 for grants under this appropriation, together with the 1951 estimate of \$3,550,000 for grants to States under "Mental health activities," equals the limit of \$27,000,000 imposed by existing law.

Technical assistance to States: The present program includes: (a) consultative services to States for local and general health services, and review and analysis of State

plans, programs, and budgets; (b) sanitation and other general training of State and local public health personnel, assistance to States in establishing training programs, and in-service training for Public Health Service officers in local health units; and (c) demonstrations in nutrition and diabetes. The 1951 estimate provides for the addition of a screening team for finding diabetes cases and demonstrating the case-finding technique to local health departments. Other increases are for strengthening the training program. The increased funds included in this budget for these purposes are as follows:

	1950	1951
Consultative services—	\$510,000	\$540,000
Training—	305,163	337,000
Demonstrations—	1,301,163	1,432,000

The studies in chronic-disease problems: This budget includes a new appropriation of \$105,000 for studies in: The development of techniques for screening individuals in one visit for various chronic diseases, mass screening for glaucoma, and home care and restorative services for the chronically ill.

SPECIAL HEALTH PROGRAM IN ALASKA

The activities financed from this appropriation have two basic purposes. The first is to supplement and strengthen the services of the Territorial Department of Health to meet the needs of an expanding military and civilian population in Alaska. The second is to enable the Public Health Service to conduct field and laboratory investigations of the disease problems of the Territory, many of which are different from those in the continental United States. An appropriation of \$1,259,000 is proposed, which includes a special grant of \$708,000 to Alaska for general health purposes.

Grants for research, experiments, and demonstrations: New legislation enacted last year authorizes the Public Health Service to make grants-in-aid to States, local governments, and nonprofit organizations for projects for the conduct of research, experiments, or demonstrations toward development, utilization, and coordination of hospital services, facilities, and resources. The sum of \$1,000,000 is recommended for this purpose.

HOSPITAL ADMINISTRATION RESEARCH

The Veterans' Administration conducts a continuous program of research on various phases of the administration of its hospitals. Following are some examples of recent research projects:

Veterans' Administration has estimated that during the past 3 years research in connection with the design of hospital equipment alone covered some 900 major studies and resulted in an annual saving of \$750,000.

In cooperation with manufacturers, a floor material was developed that meets requirements in all parts of the country and under all kinds of weather conditions.

Four items of waiting room furniture were standardized, having common replacement parts.

Test results have indicated the superiority and economy of zone-controlled heating systems.

A study is currently under way to disclose a practical method of flameproofing mattress ticking and filling.

In 1947 the total research activities were given as \$1,160,000,000. This includes industries and universities. Of that in the Federal Government there was \$625,000,000 appropriated and only \$55,000,000 went to basic research, while \$570,000,000 went to applied research development.

In the War Department there was \$500,000,000, but only \$35,000,000 was expended on basic research, which this bill

deals with, and yet \$465,000,000 was expended on applied research.

Industry, \$450,000,000, only \$10,000,000 on basic and \$440,000,000 on applied.

Universities, \$35,000,000 on basic and only \$10,000,000 on applied.

So I hope you will see what this committee is trying to do and why it is trying to focus attention on basic research, and why, as the gentleman from New Jersey [Mr. WOLVERTON] and others have so ably stated, we felt it was our duty, irrespective of party, by a very heavy majority, not only to recommend this legislation to the House, but it was our duty and obligation to support it and try to convince you of its soundness as well.

Mr. TABER. Now, will the gentleman yield?

Mr. HESELTON. I yield.

Mr. TABER. I am wondering if the gentleman could point out to us any language in the bill which would authorize the so-called Foundation to do the things that you indicated was being done in the armed services in connection with the coordination activity. In the armed services they have authority to do it.

Mr. HESELTON. Yes. I think you will find that in paragraph 6, section 3 (a), on page 3. You will find in the committee bill that there is a new committee amendment recommended. I am happy to say that the members of the committee were willing to consider a suggestion that I made because of the Hoover Commission report, but unfortunately that language does not do what we intended it to do. Therefore, I propose to offer an amendment, and I hope it will be supported by members of the committee. It is as follows:

To evaluate scientific research programs undertaken by agencies of the Federal Government and correlate the Foundation scientific research programs with those undertaken by individuals and by public and private research groups.

That, in my judgment, will properly place this new Foundation, if we create it, in a position to evaluate the whole Federal picture. It will not place it in a position where it can say to private research groups, "You must do this or else we will not give you something" or "You cannot do that or we will withdraw funds."

It leaves them to do their job by correlating this Federal activity in the overall industrial research and university picture of this country, but it definitely gives the Foundation no authority to evaluate the work of non-Federal groups or to interfere with their programs. I want to add that our colleague from Delaware [Mr. BOGGS] has discussed it with me, as well as our colleague from New York [Mr. KEATING] and others. I am confident that the substitute amendment meets their very proper objection to the form of the committee amendment. I want to absolve other members of the committee from any responsibility for that language. I had too little time to consider it carefully. It would not do what I intended—carry out the recommendation of the Hoover Commission. This substitute will do that. I hope it will be accepted by the Interstate and

Foreign Commerce Committee and by you.

The CHAIRMAN. The time of the gentleman from Massachusetts [Mr. HESELTON] has expired.

Mr. KEATING. Since I had prepared an amendment substantially similar, although, I admit, inferior in quality to that offered by the gentleman from Massachusetts, I shall support his amendment and think it is most important that it be adopted.

Mr. CROSSER. Mr. Chairman, I yield 10 minutes to the gentleman from Wisconsin [Mr. BIEMILLER].

(Mr. BIEMILLER asked and was given permission to revise and extend his remarks.)

Mr. BIEMILLER. Mr. Chairman—
Mr. KEATING. Mr. Chairman, will the gentleman yield?

Mr. BIEMILLER. I yield.
Mr. KEATING. Mr. Chairman, I ask unanimous consent to extend my remarks in the Record immediately following the remarks by the gentleman from Massachusetts [Mr. HESELTON].

The CHAIRMAN. Is there objection to the request of the gentleman from New York?

There was no objection.
Mr. KEEFE. Mr. Chairman, will the gentleman yield?

Mr. BIEMILLER. I yield.
Mr. KEEFE. Mr. Chairman, I know that the gentleman who is now addressing the House has spent a lot of time on this bill. There are a few questions I would like to try to get answered. I asked one a short time ago, and the gentleman attempted to answer it. He said that it was not the intent of this bill to transfer operating functions in the fields of scientific research, whether basic or otherwise, to the Foundation. Did I understand the gentleman correctly?

Mr. BIEMILLER. That is correct.
Mr. KEEFE. Then if the gentleman has time, I would like for him to explain why on page 19, section 8 was stricken out and a new section was inserted which proposes to make the funds that have heretofore been made available to operating agencies in the field of research transferable to the Science Foundation.

Mr. BIEMILLER. Mr. Chairman, the point raised by the gentleman from Wisconsin is one that I do intend to discuss in my remarks. If he will be patient for just a few moments, I will be coming back to the question he raises. I wish to spend most of the time available to me in dealing with the general basic problem which the gentleman from Wisconsin [Mr. KEEFE] has raised.

But first I think the urgency of the situation should be made clear.

The very suddenness with which we were catapulted into the atomic era is dramatic proof of the urgency of a Nation Science Foundation in relation to our national security. The general theories from which the practical workings of atomic energy were developed were common knowledge among the explorers of the scientific frontier long before the rest of us awakened to their shattering realities. These theories

came not from the researchers who work toward a known goal within the frontier, but from the pure researchers who explore beyond the outer limits of man's knowledge of himself and his universe.

What has that to do with this bill? Just this. This Nation is sponsoring or assisting in many research projects, public and private. The most prominent are being carried on by the Atomic Energy Commission. Almost every one of them is aimed at the accomplishment of given ends, of goals believed reachable inside the present limits of man's knowledge of the way the world works.

Meanwhile scientists from all over the United States have appeared before congressional committees to tell us that almost no pure research of the kind that first provided the atomic theories is being done. Skilled minds are applying that which the restless probers of the universe discovered years ago to the construction of a hydrogen bomb. But virtually no one is back out in that limitless scientific area where the potentialities of the H-bomb were discovered.

Pure research is enormously expensive without having any foreseeable benefits. Years of effort might result in scientific explanation of the principles of man's behavior—or in nothing. It might result in some principle of the universe that would bury the hydrogen bomb with the caveman's club—or in nothing. But pure research must be done because it is our chance that in the end science may balance the awful gift of power with the precious counterweight of control.

There are endless other potentialities in pure research, many of them almost as important. As Franklin D. Roosevelt said in November 1944:

New frontiers of the mind are before us and if they are pioneered with the same vision, boldness, and drive with which we have waged the war we can create a fuller and more fruitful employment and a fuller and more fruitful life.

Mr. Chairman, we must see the urgency in all this. The urgency in bringing to bear on our common problems not only the vast store of man's present knowledge, but that which has so far escaped him. There lies our hope.

The National Science Foundation Act was written with these great needs in mind. It deals with smaller problems as well as the large, but all within the context of the urgent importance of expanding this Nation's scientific research program.

According to Dr. Vannevar Bush, Director of the wartime Office of Scientific Research and Development:

The responsibility for the creation of new scientific knowledge—and for most of its application—rests on that small body of men and women who understand the fundamental laws of nature and are skilled in the techniques of scientific research. We shall have rapid or slow advance on any scientific frontier depending on the number of highly qualified and trained scientists exploring it.

The testimony is ample, indeed overwhelming, that the advance is not yet rapid, particularly in the pure research which is basic to applied research. It is estimated that our stock pile of as yet

unapplied basic knowledge is down about 40 percent below prewar levels.

Dr. Karl Compton, well known to most of you as former Chairman of the Research and Development Board of the National Military Establishment, has written that the Board more and more frequently meets problems the solution of which is at least temporarily halted by lack of basic knowledge.

Why have existing private and public agencies failed to take up the slack? There is the problem of personnel stated by Bush, the problem of far greater expense in terms of equipment and man hours because of the huge scale of activities needed and the problem of overall direction.

What, first, is the personnel situation? If the prewar trend in this country had continued we would have had about 205,000 scientists in this country. We now have about 165,000. There are greater demands for them than ever. As a result there are unfilled research positions in almost every public or private research agency as well as on university teaching staffs.

What about equipment and laboratory space? A committee of the National Research Council indicates that the capital outlay needed by universities and colleges alone is about \$130,000,000. To show the present lack of cohesive knowledge about our scientific personnel and facilities as a whole, there is no comparable figure on private needs.

And, third, what about coordination? The Hoover Commission is worried about the lack of it among Federal agencies alone, without mentioning the much worse situation of private research groups. There is a right to be suspicious of a system which produced sulfanilamide before the First World War, but got its first real use from the discovery more than 20 years later.

I think the need is pretty well established. There is, in fact, only scattered opposition to the measure. If the bill's intent were better understood, it seems likely even this opposition, mostly concerned about its effects on patents, would vanish.

The bill says only that each contract for research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the other parties to the contract—that no such provision will be inconsistent with any patent law. Only those who believe the Government of the United States can do no right would mistrust such a clause. It is a course of action that would be followed by any public agency with or without such a clause. Any agency which did not protect the rights of the taxpayer to such a limited extent would deserve and get a sound thrashing from Congress.

As one of the authors of National Science Foundation legislation, I want to discuss in some detail other advantages of H. R. 4846, the bill before you.

It is a solution to one of the crucial problems of this type of legislation. The administrative structure provides direct responsibility to the executive branch. It provides equally for participation in

policy decisions by impartial, but vitally interested scientists.

Not only is the proposed foundation administratively sound, but it has properly flexible authority. It can move from subject to subject, placing its emphasis on research in the area where the national need is greatest at the time.

The bill also takes into consideration a situation created by the 4 years which it has taken to bring the foundation this close to reality. Many Federal agencies are already conducting research programs which could not and did not wait for the creation of an overall agency. These programs are producing splendidly and are, in fact, good advertisements of what the nationally integrated program of the foundation can do on a much greater scale.

Among the agencies with the largest programs are the Atomic Energy Commission, the Military Establishment and the Public Health Service. They are performing their particular functions with distinction.

Under this legislation, it is not proposed that their programs will be taken over. The foundation would, of course, immediately assume its role as the coordinating agency, but it is expected that operating responsibility of present programs will remain in the hands of individual agencies. There are three principal reasons for this expectation. First, provision of research funds to a number of Federal sources is healthy, particularly since Federal funds are such a high percentage of the total allotted for research in this country. Second, there is an extensive network of non-Federal advisory groups now cooperating with the Federal agencies and their knowledge and uninterrupted assistance is vital. Finally, the foundation must not divert attention from the major problems of national scientific strategy to the details of individual programs already in operation.

The Public Health Service is a particular case in point. Grants for basic research in medicine and related sciences in this field are made to support investigations selected by scientists in the Nation's medical schools, universities and hospitals. The scientists and not the Public Health Service select the areas in which they wish to work. Applications for grants are reviewed by non-governmental specialists who are leaders in their field. Their recommendations are reviewed by national advisory councils. These councils must not only approve all specific grants, but advise on policies of the total program.

Almost all this activity is directed toward the chronic diseases which are the major causes of death in this country. As now handled, this activity has been a marvelously successful case study in democratic debate and decision. There is no need to alter its operation in any major respect; indeed, there is a need to preserve its present general form and content.

The programs of the Public Health Service would require changing only as the national scientific strategy requires changing as determined by the National Science Foundation. There, I think, is

the ideal relationship between the foundation and such agencies as the Public Health Service.

Mr. KEEFE. Mr. Chairman, will the gentleman yield?

Mr. BIEMILLER. I yield to the gentleman from Wisconsin.

Mr. KEEFE. Does this bill contemplate that the National Science Foundation, if established, will make requests for one over-all appropriation to cover the research indulged in by all Government agencies authorized to conduct research?

Mr. BIEMILLER. That is definitely not my understanding. I understand that the amounts requested would be (a) for the obvious operating expenses of the agency, and (b) for such operations as are not covered by any other grant made by the Congress for research by any existing Federal agency.

Mr. KEEFE. So that those present operations, such as the Public Health Service's categorical programs for public health, and the National Institute of Health, would not under this, in the judgment of the gentleman, be compelled to bid for the favor of one over-all piece of money in order to get a slice for the operation of their particular agency?

Mr. BIEMILLER. That is precisely my understanding and may I add in connection with the question which the gentleman raised earlier on page 19, subsection (h) of section 14. My understanding for the need of that section, and I ask my subcommittee chairman to check me if I am not correct, is that in the event a project had already been initiated—and let us use the Public Health Service inasmuch as that is the illustration in front of us—if there had been some project initiated by one of the Public Health Service institutes, either for their work in public health or under the grants it makes to various universities or other agencies which needed supplementing by some further grant for which the National Science Foundation might have funds, this subsection (h) gives the authority for pooling those funds and pooling the results and pooling the work that is to be done under such situation.

Mr. PRIEST. That is my understanding of the purpose of that provision. Let us say that the National Cancer Institute had some research going on at Johns Hopkins; let us say there was need for an additional amount for which the division of medical education in this bill had some funds, that the two might be pooled to further the project. That, I think, would be an example of what the language is intended to do.

Mr. KEEFE. I doubt if that is an answer to the question which the gentleman from Wisconsin now speaking has raised, because subsection (h) on page 19 of this bill definitely provides that—

Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided.

Mr. PRIEST. That is my understanding. If the funds were provided for cancer research on that agreement between the two agencies concerned a transfer could be made. There is authority therefor.

Mr. KEEFE. They could take the funds that the Congress has granted for research for cancer, for example, if the Foundation requested transfer of those funds with the consent of the Surgeon General or the head of the Federal Security Agency who would be the person involved, I suppose, they could transfer funds from that appropriation over to the National Science Foundation?

Mr. BIEMILLER. The section goes on to say: "to the Foundation for such use as is consistent with the purposes for which such funds were provided."

In other words, you have to have the approval of the Surgeon General in the instant case and the fact that the funds must still be utilized for the purposes for which the Congress appropriated them. This is a matter of bookkeeping. It is intended for such projects as it may be more desirable to coordinate than to have go on independently; but does not affect the basic work that would be done by the Public Health Service.

Mr. KEEFE. It makes the Foundation an operating agency in that respect.

Mr. BIEMILLER. Only insofar as the Surgeon General is willing to agree.

In addition to these major advantages of a national science foundation as proposed in H. R. 4846, there are a number which are almost as important.

First. The foundation could contribute to a solution of the problem of exchange of scientific information in which the need for secrecy is matched by the need to have the information available under the safeguards written into the bill to as many scientists as possible.

Second. The foundation could give us a total picture of how many scientists are needed, the rate of production and the fields in which the most acute shortages exist.

Third. The foundation could give us our first sound understanding of what private and public scientific resources we have, how they are distributed now and how they are likely to be distributed and used in the future.

When all this has been said about the National Science Foundation; when you add to it the 4 years of discussion, public and private; when you sum it up—what more can be said?

Only this. There are those who fear any activity on the part of Government. They are the Government haters. They think anything the Government does is bound to be wrong. Well, we are relatively reasonable men. Every single one of us saw and helped this Government successfully prosecute a war in which the life of the Nation was at stake. Every single one of us knows of other good and important things this Government has done, in peace as in war.

There is no more important thing Congress can do at this time than pledge this democratic government to underwrite its scientific future.

The benefits of science are for all of the people of this country—and eventually of the world. It is fitting that the repre-

sentatives of the people of this country once more man the outer frontiers of science with the pioneers who are our hope of a new and better world.

It is as important that those outer frontiers be manned as it is that we strengthened the bastions of our national defense. For, in the end they are the same—at once protection against our fears and hope for our future.

The CHAIRMAN. The time of the gentleman from Wisconsin has expired.

Mr. WOLVERTON. Mr. Chairman, I yield 12 minutes to the gentleman from Minnesota [Mr. O'HARA].

(Mr. O'HARA of Minnesota asked and was given permission to revise and extend his remarks.)

Mr. O'HARA of Minnesota. Mr. Chairman, may I say that this is a bill upon which we have had hearings in the Seventy-ninth Congress. In the Eightieth Congress we had hearings upon the same subject, and in the Eighty-first Congress we had hearings on the same subject, and that I started out as a member of the committee in the Seventy-ninth Congress being opposed to such type of legislation. But I have been overcome by the overwhelming weight of the arguments made by the witnesses in behalf of this bill, and I listened with equal care to those opposed to it.

I think one of the most able and powerful witnesses who appeared before our committee was Dr. Karl T. Compton, and I should like to read, if I may, some portions of his testimony which are directly in answer to some of the questions which have been raised, particularly by the gentleman from New York [Mr. Wadsworth]. Dr. Compton said, in part:

I am here in three capacities—as representative of the National Military Establishment by designation of the Secretary of Defense, as Chairman of the Research and Development Board, which is generally responsible for planning and coordinating military research, and as a citizen with some experience in scientific research as president of the Massachusetts Institute of Technology until last November. I hasten to say that in all three capacities I strongly support the establishment of a National Science Foundation. I should also add that the Departments of the Army, the Navy, and the Air Force support the basic legislation and concur in this statement. In addition, the Bureau of the Budget has advised me that there is no objection to presentation of this statement to you.

Despite the extensive discussion during the past 4 years of legislation for this purpose, I feel that it might be useful briefly to review the essential elements of the agency with which we are concerned, for I have the feeling that there is danger of diversion of attention to extraneous issues. In so doing, it may be less confusing if I refer only to H. R. 2308 and H. R. 12, intending, of course, to include the bills identical with each. However, I should like to exclude H. R. 369 for the time being and discuss it separately.

The need for a scientific foundation rests upon the major requirement in this country with respect to science. This is the dual necessity of supplementing the private resources available for the support of basic research and for the training of scientists and engineers. All other issues which have arisen in the course of consideration of National Science Foundation legislation, although many are important in themselves, are subordinate to the basic need for a foundation, and within the limit of reasonableness, they should be kept subordinate.

We have in the last 10 years devoted an enormous effort to applied research, and this, although considerably reduced since the war, is still roughly three times the annual effort made before 1939. This effort, together with previous modern advances in the utilization for practical purposes of natural phenomena, is bringing us near the point of diminishing returns. We have literally exhausted the stock pile of fundamental knowledge in many fields.

Further improvements are, of course, possible, but significant progress is becoming more and more difficult. I speak now from the point of view of the National Military Establishment concerned with providing for our armed forces equipment and weapons superior to those of any potential enemy, but the same thing applies to other governmental agencies and to industry as well. It is basic research which provides the data and general knowledge for use by those engaged in applied research for particular ends, and neither Government nor industry can maintain substantial technological progress without a steady increase in the quality and scope of this basic knowledge.

Mr. Chairman, I feel that that statement by Dr. Compton alone is the overwhelming argument which makes this legislation important and imperatively necessary.

Mr. WOLVERTON. Mr. Chairman, I yield 5 minutes to the gentleman from Maine [Mr. HALE].

(Mr. HALE asked and was given permission to revise and extend his remarks.)

Mr. MCSWEENEY. Mr. Chairman, will the gentleman yield?

Mr. HALE. I yield to the gentleman from Ohio.

Mr. MCSWEENEY. May I say that I grew up in the same town with Dr. Karl Compton, attended the same college, and have had definite correspondence with him relative to this legislation. I asked him one question which maybe the gentleman can answer. Does the gentleman believe it would stifle private industry in its efforts and research?

Mr. HALE. I quite definitely do, and I am going to develop that thought.

Nothing would please me more than to join in the chorus of praise for this legislation. It is never very pleasant to serve as a dissenter on a congressional committee, particularly on a committee as strong and able as I think the Committee on Interstate and Foreign Commerce is. It is only because I feel rather strongly that this particular piece of legislation is not really wise and salutary that I voted against it in the committee this year. I voted against it in the Eightieth Congress, and at that time made a more elaborate and extensive speech than I expect to make today.

The truth of the matter as I see it is that the effect of this bill is to inject science into politics and politics into science; and I think it is a miscegenation devoutly to be avoided.

I do not believe that you can possibly draw a bill which gives Government control over scientific-research programs and still leaves scientists the freedom I think they must have. Nobody has said any more eloquently than it was said this morning by the gentleman from Massachusetts, our majority leader, that the scientist must have his freedom. I do

not care how well-meaning political bureaus or commissions or foundations may be, I do not think they can leave scientists altogether free, and free scientists must be.

The way to accomplish the result which this bill seeks to accomplish is, in my opinion, to amend our tax laws and make more readily possible private donations and corporate donations to scientific pursuits and research. I believe that amendments of this kind to our tax laws could very readily be devised. I think they would be completely effective, and would cost the Government very much less money than it will find itself spending for the support of this Foundation.

The trouble with this bill, in my opinion, is that it is one more straw in the gradual socialization of our whole national structure. I read the other night with great interest the President's \$100-dinner speech in which he poked fun at the Republican Party for opposing this, that and the other measure as being socialistic. Of course, Mr. Chairman, one straw does not make a haystack. Two straws do not make a haystack. Three or 4, 5, 6, 7, 8, 9, 10, 100, or 200 straws do not make a haystack. Finally you get enough straws—I just do not know how many it does take—but you get enough straws and you get something that everybody recognizes to be a haystack. It seems to me if you place more and more activities, whether of a business or a scientific nature, under Government regimentation, then you have—finally—a structure, the character of which no one can mistake. I have great respect for Dr. Compton and Dr. Bush, and all the other distinguished scientific gentlemen who favor this legislation.

I will call attention to the fact, however, that there are many distinguished scientists who are heartily opposed to this legislation. During the Eightieth Congress I inserted in the RECORD a very large number of communications which I received from distinguished scientists in opposition to a measure similar to this. But the sad truth is that too many scientists find themselves like so many farmers, manufacturers, and others unable to resist the lure of Government subsidies. I wish that this legislation might be rejected. Science will not suffer if it is.

The CHAIRMAN. The time of the gentleman from Maine has expired.

Mr. CROSSER. Mr. Chairman, I yield 7 minutes to the gentleman from New York [Mr. CELLER].

Mr. CELLER. Mr. Chairman, the Office of Scientific Research and Development, as directed by Dr. Vannevar Bush, was an organization during the war of 5,000 scientists and 10,000 technicians. They advanced our scientific and technical knowledge 20 years in the space of 5 war years. If the Office of Scientific Development and Research was efficacious during the war, we should have a continuation of similar work during peacetime. The National Science Foundation would accomplish that—a continuation of the splendid work performed by these technicians and scientists under the able direction of Dr. Vannevar Bush.

I hope a man of the caliber and stamp of Dr. Vannevar Bush will become Chief of the National Science Foundation. We could never find a better man than he to head up this outfit.

There are no longer any physical frontiers but frontiers of science are still vague intellectual regions unconquered. Indeed, they seem to recede ever further away as physicists, biochemists, biologists, medical savants make new revelations and discoveries.

To help control these ever-changing frontiers will be the function of the National Science Foundation. That problem is too gigantic for private industry or groups to cope with. Our Government must step in.

I want to call the attention of the gentleman from New York to the fact that Charles Kettering, a very noted scientist and automotive industrialist, tells us that 6,000,000 men and women are marked for death from cancer and 200,000 will die every year from that dread scourge, cancer. If a cure could be found for cancer at a cost of \$25,000,000, which is the estimated ultimate cost for the National Science Foundation, I say the cost would be minuscular in comparison to the dread disease called cancer. Dr. Kettering stated:

Cancer presents a number of curious paradoxes, such as the fact that biologically it is at the positive extreme of life and growth and is at the same time a widespread cause of death; that the more complete our medical services and the higher our standards of living, the more cancer we seem to develop; that scientists have a relatively great knowledge of the world around us, but have failed to penetrate with equal mastery the unit of man himself, the cell.

Then he goes on to ask: Why is it that 200,000 people amid us must die every year from cancer?

Mr. MILLER of Nebraska. Mr. Chairman, will the gentleman yield?

Mr. CELLER. I yield.

Mr. MILLER of Nebraska. The gentleman understands that vast sums of money are now being spent upon research to discover the cause and cure of cancer.

Mr. CELLER. I say that the National Science Foundation, regardless of all other scientific endeavor, will specifically direct its attention to the finding of a cure for cancer.

Take the case of the common cold. The medical profession has advanced remarkably in latter years, but it is no disparagement of the medical profession to say that the doctors have not even succeeded in finding a cure for the common cold. The story is told of a man who comes to a doctor. The doctor says, "Why, you are suffering from a cold." "Well, can you help me?" asked the patient. The doctor says, "I'll tell you what you do. It is raining cats and dogs outside, take off your coat and your hat and walk about 3 miles in that teeming rain. Then come back to me."

The patient said, "But I will get pneumonia."

The doctor said, "That is exactly what I want you to get. I can cure pneumonia but I cannot cure a common cold."

If we could cure a common cold, it would be worth more than the \$25,000,000 a year, the cost of estimated operation under the National Science Foundation.

Mr. KEEFE. Mr. Chairman, will the gentleman yield?

Mr. CELLER. I yield.

Mr. KEEFE. I do not want the gentleman to be under a misapprehension, of course. The \$25,000,000 that is proposed here as the cost of this bill is in no way related to the direct research in the field of cancer. If the gentleman had been here he would understand that the National Science Foundation itself is not to be an operating agency. We are going to spend \$100,000,000, if necessary. Do not talk \$25,000,000 in cancer. We want a hundred million dollars.

Mr. CELLER. Please do not use all my time. I will say to the gentleman that we in this House still have control of the purse strings of the Nation. All you need to do is to vote down anything above and beyond \$25,000,000. I want to be economical when it comes to expenditures. Economy, yes; but not parsimony. I do not want to react toward this proposition in a pinch-penny manner. I fear that some of those who are opposing this bill are acting in a niggardly manner. The National Science Foundation will have justified itself if it finds, say, the cause and cure of heart disease. Where human life is at stake, the cost cannot be weighed as some do in the chamber who oppose the bill. The argument of bureaucracy as advanced against the bill is the usual argument of die-hard conservatism. If another bureau will help save human lives or advance our national health and welfare, I am for another bureau.

There are scores of nonfatal maladies of which medical science knows very little. Those maladies are serious and laden with intense pain. They are not lethal. You do not die from them, but their cost in misery and suffering and the loss of man-hours is incalculable. Maybe the National Science Foundation can find a cause and give us a remedy for shingles, for gout, for arthritis, for rheumatism. Medical science has not been able to effectuate a cure for any of those diseases that I have mentioned. They do not know the causes and, therefore, know no permanent cure. Take the malady commonly called gout. It involves the one having gout in most excruciating pain. There is the idea that gout is caused from an improper accumulation of uric acid that has an affinity for the great big toe. I was afflicted with gout not so long ago. The doctor told me I had the gout. I was in terrible pain. I said, "Are you sure? I do not lead that kind of a life." "Oh," he said, "you have been reading Dickens or Benjamin Franklin's Ode to Gout." "Gout," he said, "could attack anyone; man or woman, tall or short, lean or fat; those who live richly and those who live on an austere diet." "But," he said, "we really do not know much about it." He gave a specific remedy which tended to relieve the pain, but gout can recur any time.

Shingles is a dreadful affliction. I hope nobody ever gets shingles, but I can tell you that shingles is like a thousand toothaches under your skin. It is due to some nerve condition, but the doctors know practically nothing about it except to recognize the symptoms. Maybe the National Science Foundation will yield a remedy for shingles or gout or arthritis.

Medical science and biochemistry have lengthened somewhat life's span, but there seems to be no valid reason why it should not be lengthened further. The National Science Foundation might well be the fulcrum by which our life's span might be heightened and lifted.

Too many of our own members leave us for their final reward at a time when they reach the height of their intellectual powers; when they could do their best work and create greater benefits for the Nation; when they could draw upon rich experience to help solve the problems of this hectic age. But illness befalls them and the grim reaper demands his toll.

Perhaps through the National Science Foundation we can help to strengthen these men in body and mind by postponing the coming of infirmities and thus give them a longer lease on life.

I recall the lines in the second act of Shakespeare's *As You Like It*:

Last scene of all

That ends this strange eventful history,

Is second childishness and mere oblivion,
Sans teeth, sans eyes, sans taste, sans every-
thing.

Perhaps the research and medical and technological advances that would be made by the National Science Foundation can prevent the second childishness and mere oblivion that comes with the seventh age of man, so that men at seventy could be strong and vigorous and still have their faculties and not be "sans teeth, sans eyes, sans taste, sans everything."

I also recall the lines in *All's Well That Ends Well*:

Let me not live

After my flame lacks oil, to be the snuff of
younger spirits.

Perhaps the results of the research of the National Science Foundation can supply that oil now lacking and make the flame of life glow after seventy.

A proposed amendment would add a loyalty oath requirement for scholarship and fellowship holders. The amendment would add a part (b) to section 10 reading as follows:

No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this act shall be used to make payments under any scholarship or fellowship to any individual unless there is on file with the Foundation an affidavit executed by such individual that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods. The provisions of section 1001 of title 18, United States Code, shall be applicable in respect of such affidavits.

As to this amendment, I quote from an article by Dael Wolfe, of the American Psychological Association, as same

appears in the magazine *Science*, published by American Association on the Advancement of Science, January 27, 1950:

This amendment was proposed to the very great regret of scientists. It was proposed last spring when Atomic Energy Commission fellowship holders were under fire from other congressional committees. It is a concession to the current temper of Congress and many citizens. But it is unnecessary; overt treason or acts of disloyalty are adequately handled by existing law, which is not strengthened by the affidavit requirement. It is also an invasion of freedom, and it is disturbing to have undergraduate and graduate students majoring in any of the sciences and supported by Foundation funds required to sign such an affidavit regardless of whether the work upon which they are engaged requires security classification or not. The affidavit is, however, a milder requirement than the FBI investigation which must now be made of all Atomic Energy Commission fellows, and accepting it may be necessary. At its meeting in New York City on December 27 the Inter-Society Committee for a National Science Foundation formally voted its disapproval of the inclusion of this proposed amendment. At the same time, if the amendment is added despite the opposition which it will arouse, the bill as a whole will have the support of the inter-society committee.

Mr. WOLVERTON. Mr. Chairman, I yield 5 minutes to the gentleman from California [Mr. HINSHAW].

Mr. HINSHAW. Mr. Chairman, I hope there is no misapprehension among the membership of this committee and the House concerning the basic reasons why this bill is brought here. There is a very vast difference between what is called basic or fundamental research and the applied research, which is that type of research which most of us seem somewhat familiar with. Basic research is something that delves into the absolutely unknown; it delves into the very deepest unknown aspects of science. We talk a lot about virus diseases, for example; but no one yet knows what a virus is; it is a name for something they describe, but they have yet to find out what a virus is, what it looks like and how viruses differ from one another. It is said that a virus causes shingles; it is said that a virus causes the common cold, but no one yet has been able to identify either or do anything to destroy them except to know that they are there. This is one example in the field of medicine.

In the field of pure science such as that dealing generally with electronics or radiation, it was research into the very unknown, the blue, so to speak, that brought out those principles which developed in the application of that science into, among other applications, what now is known as radar. In the field of mathematics it is not the kind of mathematics that figures out some particular problem, but it is the finding of new kinds of mathematics with which to learn the answers to heretofore unsolved questions. This is basic; it is fundamental; it has nothing to do with the applications of the things that are discovered.

My good friend, the gentleman from Maine, has said that this problem might well be solved, that is, the problem of the

financial support of basic or fundamental research, if we would permit a greater exemption in the income tax for gifts to scientific institutions, and I have no quarrel with that. I believe that if instead of having a 10 percent allowable deduction from income for contributions to eleemosynary institutions, churches, and so forth and so on, it were 20 percent, 30 percent, 40 percent, or 50 percent, we might indeed get those moneys. But that is not in the offing as far as I can see into the future; I cannot see any immediate time in the future when deductions would be permitted to be made from income for these purposes so long as we have the very great national debt we now have to meet. It is important if we are going to find those basic and fundamental answers that are needed from science before we can make application of those answers to the solution of the many many problems in our country that the Government help in establishing this foundation.

Let me point out that during the recent war when we had the Selective Service Act before us we made no exemption of scientific personnel until we found our universities stripped of some of the really great minds that were needed to train further in basic science. I offer that statement here because if we ever should consider another such bill let us not take these minds that can be developed into the very highest type and send them out to dig trenches, to bake bread, to carry arms, or whatever else the man might be called upon to do in the field of military effort. We must realize that we had a whole generation of these fellows taken out of our colleges. Today we are short of men who can think into the blue, into the unknown, and we must reestablish that broader basis of men who are interested in these technologies and scientific pursuits in order that we can keep abreast and keep ahead of our applied science which are searching for new knowledge on which to base further applications.

The CHAIRMAN. The time of the gentleman from California has expired.

(Mr. HINSHAW asked and was given permission to revise and extend his remarks.)

Mr. WOLVERTON. Mr. Chairman, I yield 2 minutes to the gentleman from California [Mr. JOHNSON].

(Mr. JOHNSON asked and was given permission to revise and extend his remarks.)

Mr. JOHNSON. Mr. Chairman, I had a little experience in the Eightieth Congress that impressed me with the need for an organization such as the one set up in this bill. When the Armed Services Committee was organized the chairman of that committee, the late Mr. Andrews, of New York, appointed a scientific research and development subcommittee and he named me as chairman of that committee. I learned there that the last war was won in a large measure in the laboratories of the country.

The thing that the military men and the scientific men with whom we came in contact dwelt on most was the need for basic research; that is, to expand the frontiers of science and thus learn some-

thing new. Part of the object in pursuing basic research was to block out theories they had which were not tenable, it was found, after extensive basic research.

I am not impressed with the argument that this might mean the regimentation of scientists. In our great State universities which our various States own and operate, and I have gone to two of them, that has not occurred. At the University of Wisconsin, where I was a student at one time, there was a charge that the scientists were being regimented and there was such a violent reaction to this charge that no one ever tried to regiment the scientists any more.

Also I learned as a member of this committee that the cost of basic research is so stupendous and also so essential that we must find money other than private money to finance it. The only place I can see to find that money is in the National Treasury. Even the States such as California and Wisconsin, whose activities in science are nationally recognized cannot, without private aid finance such programs. As everyone has pointed out, the private foundations are gradually dying out due to our fiscal system, which levies very high taxes on large incomes.

Mr. Chairman, I believe this bill affords a vehicle which can do the basic research that is necessary in our national defense as well as in our national life and for the reasons stated I am going to support the bill.

We have not been as preeminent in pure research as many people believe. The following statement from Dr. Vannevar Bush from his book, *Science: The Endless Frontier*, which I accept as my statement, states the situation as follows:

Our national preeminence in the fields of applied research and technology should not blind us to the truth that, with respect to pure research—the discovery of fundamental new knowledge and basic scientific principles—America has occupied a secondary place. Our spectacular development of the automobile, the airplane, and radio obscures the fact that they were all based on fundamental discoveries made in nineteenth-century Europe. From Europe also came formulation of most of the laws governing the transformation of energy, the physical and chemical structure of matter, the behavior of electricity, light, and magnetism. In recent years the United States has made progress in the field of pure science, but an examination of the relevant statistics suggests that our efforts in the field of applied science have increased much faster so that the proportion of pure to applied research continues to decrease.

Several reasons make it imperative to increase pure research at this stage in our history. First, the intellectual banks of continental Europe, from which we formerly borrowed, have become bankrupt through the ravages of war. No longer can we count upon those sources for fundamental science. Second, in this modern age, more than ever before, pure research is the pacemaker of technological progress. In the nineteenth century, Yankee mechanical ingenuity, building upon the basic discoveries of European science, could greatly advance the technical arts. Today the situation is different. Future progress will be most striking in those highly complex fields—electronics, aerodynamics, chemistry—which are based directly upon the foundation of modern science. In the next generation, technological advance

and basic scientific discovery will be inseparable; a nation which borrows its basic knowledge will be hopelessly handicapped in the race for innovation. The other world powers, we know, intend to foster scientific research in the future.

A matter that came to my attention while I was subcommittee chairman of the Scientific Research and Development Subcommittee was that there was a great shortage of scientists, especially young scientists. This was due in part to our failure to grant deferment to scientists who were inducted into the armed services. Britain deferred these men, but we did not. The Westinghouse Corp. is doing a marvelous work in conducting an annual contest to uncover scientific talent in our high schools. Each year they hold a dinner at which they announce the winners of their contest. This year is the ninth annual dinner which climaxes their science talent search and at this dinner 40 winners will be announced and given scholarships. This event is one of the most inspiring that I go to. I have not missed one since I was first invited. The winners who are brought to Washington receive scholarships ranging from \$2,800 to \$100. In addition the search reveals many more promising young scientists and 260 more are given honorable mention. The director of this great project is Mr. Watson Davis and the project is known as Science Service. The Westinghouse Corp. deserves great credit for sponsoring and financing this very important activity.

There is a great shortage of young scientists and this cannot be filled by private enterprise. Consequently I feel that a bill such as the one before us is worth passing so we may help private enterprise get the scientists that this modern world needs so badly.

The CHAIRMAN. The time of the gentleman from California has expired.

Mr. WOLVERTON. Mr. Chairman, I yield 3 minutes to the gentleman from Iowa [Mr. GROSS].

(Mr. GROSS asked and was given permission to revise and extend his remarks.)

Mr. GROSS. Mr. Chairman, until the Federal budget is balanced and payment on the national debt is at least begun, I must be convinced that H. R. 4846 or any bill, that would set up another bureau, is absolutely necessary or would be of immeasurable value to the country before I could vote for it.

Therefore, I should like to ask proponents of this so-called National Science Foundation Act of 1949 some questions.

I find in the bill absolutely no estimate as to how much the Foundation would cost the taxpayers per year. Under section 3, the Foundation would be allowed to make "grants, loans, and other forms of assistance" using, according to section 15, "such sums as may be necessary." It has been estimated on the floor that the cost would be at least \$25,000,000 a year.

To me, this looks too much like another blank check at the disposal, according to section 2, of the executive branch—in other words, the President. And, although section 3 provides for the Foundation to render an annual report

to the President for submission to Congress, would not section 11 amount to censorship powers of information vital to the public through allowance of funds without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor?

Except under parts of section 4, 5, 6, 7, 8, and 9, establishing the Board, director, executive committee, divisional committees, and special commission, I can find no limitations as to the number of people who could be employed. And section 14 appears to give the director power to sidestep the Civil Service Commission. Is this true? If so, would not the patronage handed over to the President be practically unlimited?

What provision is there that any individual or group of individuals could make any crucial decision or recommendation when each member of the Foundation is appointed directly or indirectly by the President? In this connection, I call your attention to the fact that the Atomic Energy Commission was not permitted to decide whether to attempt the manufacture of the hydrogen bomb. The President asserted that he and he alone would make that decision.

And nowhere in the bill can I ascertain any guaranty against duplication of the Foundation's activities with such bureaus as the Atomic Energy Commission, the United States Employment Service, the Department of Education, and the Department of Defense. The bill, under section 14, for example, calls only for consultation or concurrence with certain bureaus.

Section 11 would give the Foundation authority to receive funds donated by others. Could this lead to coercion of individuals and businesses or favoritism to those able to afford contributions? Could further impropriety result through allowance of the director or deputy director to hold office in organizations making contracts with the Foundation simply by obtaining approval of the Executive Committee, as outlined in section 14?

And, under section 12, what would happen to the entire patent set-up with officers or employees of the Foundation being allowed to apply for patents under any rules and regulations that the Director might establish, even though such persons would be called nominees of the Government?

Would the bill allow the Foundation to confiscate personal property of all kinds including research facilities and patents? If not, where in the bill is such an interpretation precluded?

Under section 13, could not the Foundation grant up to a hundred percent of its funds to foreign governments and individuals? Is there any assurance that the Foundation would work primarily for the benefit of the people of the United States instead of foreign governments?

And could not scholarships, authorized by section 10, be used as subsidies for foreign universities?

If we approve this bill, will we create another bureaucracy that will grow and grow, eat up unlimited funds, roam and rule the entire arena of science and all

people, businesses, associations, and educational institutions pertaining to science?

Mr. HINSHAW. Mr. Chairman, will the gentleman yield?

Mr. GROSS. I yield to the gentleman from California.

Mr. HINSHAW. To most of the gentleman's questions he can find answers in the report. But, the answer to the question concerning the hydrogen bomb and the Atomic Energy Commission, I will say to the gentleman that the Atomic Energy Act provides that the President, and the President alone, can make the decision as to whether or not to build it. That is the act.

Mr. GROSS. That may be true, and I think that act should be revised. I am likewise opposed to this legislation because it gives the President too much power.

The CHAIRMAN. The time of the gentleman from Iowa has expired.

Mr. CROSSER. Mr. Chairman, I yield the balance of my time to the gentleman from Oklahoma [Mr. Wilson].

(Mr. WILSON of Oklahoma asked and was given permission to revise and extend his remarks.)

Mr. WILSON of Oklahoma. Mr. Chairman, it is my firm conviction that this House should pass the National Science Foundation bill. My able and distinguished fellow committee member from Tennessee has ably and lucidly explained the working provisions of H. R. 4846, how the National Science Foundation would function and how it would fill the research needs of the United States. I cannot emphasize too greatly the need for this organization. Our Yankee ingenuity has always been turned to the mass production of goods rather than to the research of a fundamental sort that makes possible these new developments. American industry deals primarily and essentially with applied science and has preconceived goals which prevents its engineers, chemists and other skilled and trained employees from delving too far into the field of basic or speculative science. As a matter of fact some of our most sensational new processes and drugs have been the result of basic research on matters previously thought to have little bearing or relation to the end discovery. Such discoveries frequently come from remote and unexpected sources.

The desire of American industry for practical short term results as opposed to speculative research, which is essentially a long term proposition and non-commercial in nature, has led to a critical imbalance between basic and pure scientific research and applied scientific research. Probably less than 8 percent of the total expenditures on research activities in this country are channeled to basic research. The recent war channeled virtually all of our scientists away from basic research and the shortage of teachers, science graduates, and science Ph. D.'s has been estimated as high as 15,000, 100,000, and 3,000, respectively, for the three categories.

Further, if we look at our past spectacular development of the automobile, radio, airplane, radar, and the atomic

bomb as well as other less publicized inventions it can readily be seen that a tremendous part of our basic knowledge in these fields has been borrowed from Europe. Take a look at the 149 Noble Prize winners in physics, chemistry, and medicine from 1901 through 1948; 123 were born and received all their early training in Europe; only 22 were born in the United States and trained here. With a war devastated Europe devastated intellectually as well and without the financial resources to conduct expensive basic research, the time has come when we can no longer depend on other nations for our basic discoveries. As we push on to new frontiers in science basic research is going to require more and more expensive equipment and better trained personnel. Our colleges and universities, long the primary source of pure scientific work in the United States, are finding that funds for anything but the applied sciences are dwindling year by year. Endowment funds are inadequate and produce but an inadequate income from which to finance the basic research that provides the stream of new ideas and discoveries to turn the wheels of private and public enterprise.

Not only can we no longer borrow our basic scientific discoveries from Europe but we have but to peer beyond the iron curtain to see Russia midway in a 5-year program to produce 700,000 scientists and engineers and spending well over a billion dollars a year in scientific training. Further than that we have but to look at war impoverished England to see an example of a country now learning in the hard school of experience what it means to drop behind in research and development and permit her factories and laboratories to become obsolete. I cannot overemphasize the importance of the National Science Foundation. It may well prove the slim margin of victory in a shooting or cold war. That is what radar proved to be in our war of attrition with the German submarine in the last war and German rockets were stilled only by capturing the launching sites.

The importance of a backlog of scientific data and research information is apparent from the development of penicillin and other wonder drugs. While war tended to accelerate the application of basic medical discoveries it was the fact of these discoveries that cut deaths from disease in the military from 14.1 per thousand in World War I to 0.6 per thousand in World War II. There remains yet a tremendous challenge in the medical research field. Heart disease, cancer and yearly scourges of infantile paralysis or polio are constant reminders of this fact.

H. R. 4846 is admirably suited to perform the functions demanded of it. The Hoover Commission in reporting on the Government's research program heartily endorsed the creation of the National Science Foundation and stated that it should have the following major functions:

- (a) To examine the total scientific research effort of the Nation;
- (b) To assess the proper role of the Federal Government in this effort;

(c) To evaluate the division of research effort among the scientific disciplines and among fields of applied research; and

(d) To evaluate the key factors that impede the development of an effective national research effort. Based upon its investigations, it should advise the President as to the measures necessary to establish a sound scientific research program for the Nation.

Compare that, if you will, with the functions stated in section 3 (a) of H. R. 4846; the Foundation is authorized and directed—

(1) To develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(2) To initiate and support basic scientific research in the mathematical, physical, medical, biographical, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

(3) After consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

(4) To award, as provided in section 10, scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) To foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) To evaluate scientific research programs undertaken by individuals and by public and private research groups, including scientific research programs of agencies of the Federal Government, and to correlate the Foundation's scientific research programs with such programs;

(7) To establish such special commissions as the Board may from time to time deem necessary for the purposes of this act; and

(8) To maintain a register of scientific and technical personnel and in other ways to provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including Territories and possessions.

Section 3 (b) goes on to state:

In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

This bill further provides that until otherwise decided by the Foundation there will be certain divisions created within it as follows:

(1) A Division of Medical Research;

(2) A Division of Mathematical, Physical, and Engineering Sciences;

(3) A Division of Biological Sciences; and

(4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

(b) There shall also be within the Foundation such other divisions as the Board may, from time to time, deem necessary.

Mr. Chairman, I am confident that the creation of this Foundation with the purposes and organization provided in this bill will greatly stimulate and will coordinate and lend direction to the scientific endeavor of this Nation. May I state at this juncture that one of the most important features of this bill is that for scholarships and research fellowships. The most important single factor in science and technology is the quality of the personnel engaged therein. Where there are always those rare individuals who will rise to the top without formal education and training they are the exception rather than the rule. Often the most talented of our youth are without means to pursue the extended education necessary to qualify them for pure science or basic research. The National Science Foundation will not only provide us with the means to educate the most talented of our youth but it will retain a register of the scientific personnel of the Nation for use in times of war or national emergency and as a clearinghouse for the full utilization of the creative potential of this group.

I want to stress, too, the fact that freedom of inquiry will be maintained and the Foundation will neither build nor operate scientific laboratories of its own. By utilizing the colleges and universities and private research facilities the Foundation will employ the most productive units of original and creative scientific thinking. This system will promote a strong sense of personal and intellectual freedom which we in America believe to be the most conducive to advancement and constructive work. Further, this agency is designed and is instructed by the terms of the bill to work to supplement and encourage private research facilities and efforts of manufacturers and others. With such a provision this bill has the support of the National Association of Manufacturers.

Another benefit that will be derived from the Foundation is the general dissemination of scientific information to all the country except that which must be retained for security reasons. Presently only large, well-established and highly integrated corporations are able to maintain a research staff with sufficient qualifications and proper equipment to carry on the long-range work necessary in basic research. As a result these units place small independent businesses at a competitive disadvantage and tends to foster monopoly of patents on new discoveries in corporations of that category. Published results of research under the National Science Foundation would be equally accessible to small businesses as large, and with equal speed.

I do not hold out the National Science Foundation to be a panacea for progress but I do conceive of it as furnishing the necessary impetus to basic research which is an essential ingredient in our search for better health, prosperity, and national security. It will enable us to raise our standards of living and to release the full creative and productive energies of the American people. It is

vital to our goal of full employment and a fruitful life.

Dr. Vannevar Bush, former Director of the Office of Scientific Research and Development, in September 1945 dramatically pointed out that our new frontiers lie in scientific research, and I quote his words:

It has been basic United States policy that Government should foster the opening of new frontiers. It opened the seas to clipper ships and furnished land for pioneers. Although these frontiers have more or less disappeared, the frontier of science remains. It is in keeping with the American tradition—one which has made the United States great—that new frontiers shall be made accessible for the development by all American citizens.

Mr. Chairman, it is my firm conviction that the National Science Foundation will open new frontiers for all American people and help maintain this country in its present preeminent position. I urge the Members of the House of Representatives to approve it. I thank you.

The CHAIRMAN. The time of the gentleman from Oklahoma has expired. All time has expired.

The Clerk will read the bill for amendment.

The Clerk read as follows:

Be it enacted, etc., That this act may be cited as the "National Science Foundation Act of 1949."

(Mr. CHURCH asked and was given permission to revise and extend the remarks he made on two occasions.)

Mr. SMITH of Wisconsin. Mr. Chairman, I ask unanimous consent to extend my remarks at this point in the Record.

The CHAIRMAN. Is there objection to the request of the gentleman from Wisconsin?

There was no objection.

[Mr. SMITH of Wisconsin addressed the Committee. His remarks will appear hereafter in the Appendix.]

Mr. KEATING. Mr. Chairman, I move to strike out the last word.

Mr. Chairman, I have a couple of questions which I would appreciate having cleared up either by the gentleman from Tennessee or the gentleman from New Jersey, or both, or by some other member of the committee.

On page 13, section 11 subsection (e) gives to the Foundation the authority to acquire property by purchase, lease, loan, or otherwise. I am somewhat worried about the power of eminent domain, not so much in the field of real estate, although offhand I fail to see why it should be necessary for this Foundation to have any power to condemn property since it is not to be an operating agency, but I am particularly interested in, and the point to which I would appreciate some member of the committee directing his remarks has to do with the possible power of eminent domain over patents and patent rights.

I have received a number of communications from individuals connected with several industries in my community employing large numbers of men and women who are very much afraid that this particular language might permit the Foundation to acquire and force a con-

cern to give up valuable patent rights through the power of condemnation.

I notice, however, on page 159 of the hearings, that when there was some colloquy on the point both the gentleman from Tennessee and the gentleman from Minnesota indicated that they did not think this power did exist. It seems to me important to have this point clarified on the record.

I have prepared an amendment to this section to exclude the power of eminent domain over patents and patent rights. If it is not necessary, I do not want to offer it, but if it is, I should like to offer it, when we reach the consideration of section 11.

I want to be sure that the Foundation cannot claim, by virtue of the provisions of this bill, that it has the right to walk into any plant, large or small, and say to the management that it must turn over valuable patent rights to the Government without any choice in the matter or any voice except to be heard on the question of the amount of compensation.

Mr. PRIEST. I appreciate very much the gentleman's position in the matter. I can say without reservation that the Foundation would not have any authority under this bill or under any law on the statute books today to exercise the right of eminent domain and to condemn patents. The only general authority for eminent domain is contained in an act passed in 1888. That act restricts the right of Government agencies which have the authority under the act to real property for the purpose of public buildings, highways, bridges, and other public structures of that kind. So the question of having any right to exercise eminent domain over patents is not contained in this law nor any other law. I believe we have studied that question pretty thoroughly to determine that point.

Mr. KEATING. That has been canvassed by the committee, and that is the considered judgment of those who have studied it?

Mr. PRIEST. That is the considered judgment of those who have studied it over quite a long period of time.

Mr. KEATING. I thank the gentleman.

Mr. HINSHAW. Mr. Chairman, will the gentleman yield?

Mr. KEATING. I am glad to yield to the gentleman from California, a member of the committee.

Mr. HINSHAW. As a matter of fact there was language which would have permitted that in the original bill, as I remember it, as it was submitted to the committee. It was specifically stricken from the bill by the committee and has not been reinserted in either the Eightieth or Eighty-first Congress. There is no power whatsoever to exercise eminent domain in this bill as we understand it.

Mr. KEATING. I thank the gentleman.

I would like to refer to another section. At page 3, section 3, subsection (6) has to do with the evaluation and correlation of scientific research programs. As now worded, it gives authority and direction to evaluate all such programs, both

those undertaken by agencies of the Federal Government and by individuals and private research groups. This seems to me to give rise to the possibility of an unwarranted intrusion into the affairs of individuals and such private research groups as are represented by the research laboratories of private industry.

Under no circumstances should this Foundation be able to claim that it is given authority under the provisions of this law to require, at least in time of peace, that private individuals or companies disclose the results of their own independent research. To permit otherwise would certainly open the door to the possibility of abuse through requiring an individual or company to make disclosure to the public, including that individual's or that company's competitors of all the results of research which had entailed immense expenditures of time and money.

I had prepared an amendment to meet this problem, which would read as follows:

(6) To evaluate scientific research programs undertaken by public research groups, and by individuals and private research groups when mutually agreeable, including scientific research programs of agencies of the Federal Government, and to correlate the Foundation's scientific research programs with such programs.

Since I am now informed that the gentleman from Massachusetts [Mr. HESELTON] a member of the committee, will offer an amendment to limit the evaluation of the scientific research programs solely to agencies of the Federal Government, eliminate any authority for evaluation of such programs by individuals or private research groups and provide that it shall only be in the proper field of correlation that the Foundation shall have anything to do with such individual and private research groups, I shall, of course, not offer my amendment and will support the one offered by the gentleman from Massachusetts. Indeed, I think his language is superior to mine in making the legislative intent entirely clear that the Foundation shall under no circumstances, except by mutual agreement, be able to inject itself into the private field.

I sincerely hope that the important amendment of the gentleman from Massachusetts will be adopted and I would emphatically urge its acceptance by the committee.

Mr. PRIEST. May I say to the gentleman, so far as I know on this side we are perfectly willing to accept it, and I feel that is true on the other side.

Mr. KEATING. I thank the gentleman.

(Mr. KEATING asked and was given permission to revise and extend his remarks.)

Mr. HOLIFIELD. Mr. Chairman, I rise in opposition to the pro forma amendment.

(Mr. HOLIFIELD asked and was given permission to revise and extend his remarks.)

Mr. HOLIFIELD. Mr. Chairman, enactment of H. R. 4846, the National Science Foundation bill, is vital to the welfare and security of the United States.

The National Science Foundation bill has been long in the making. It has received the most careful study by the Congress and by executive agencies of the Government over a period of years. Since July 1945, when Dr. Vannevar Bush submitted his memorable report, *Science: the Endless Frontier*, three separate Congresses have considered legislation and taken testimony from hundreds of witnesses prominent in our national life.

The objectives to be sought by a National Science Foundation have received virtually unanimous support and approval by these many witnesses and by other individuals and organizations throughout the country. The urgent need to foster and promote basic research in the sciences rises above any party consideration; it goes to the heart of our national welfare and safety.

True, there have been sharp differences of opinion and judgment on particular provisions of the National Science Foundation bill. The appropriate administrative structure, the disposition of patents involved in Government-financed research, the place of the social sciences in the proposed program—these and other vexing problems have been debated.

President Truman's veto of a science foundation bill passed by the Eightieth Congress indicated that the problem of administrative organization had not been satisfactorily resolved. The bill that came from the Eightieth Congress would have vested the responsibility for major policy decisions in the hands of private persons. The President has been a firm and consistent supporter of National Science Foundation legislation, but he has rightly used his veto power to insist that the public interest be safeguarded.

The bill which we consider today has attempted to work out reasonable solutions to the controversial elements in earlier bills. Although these provisions may not meet with all of our individual views, I feel strongly that the unanimity of agreement on general objectives and the urgency of the need for this legislation should persuade us to vote the bill favorably.

It is important to note that the Hoover Commission in its report of Federal research specifically and unanimously recommended that a National Science Foundation be established.

In emphasizing the need for the development and integration of a research policy for the Federal Government as a whole, the Commission noted that an interdepartmental committee on scientific research and development had been created by executive order on December 1947. However, the Commission pointed out that the full potentialities of this interdepartmental committee had not been realized, partly due to lack of staff and funds, and then stated:

An interdepartmental committee working alone and without staff is seriously limited in achieving adequate coordination and in developing over-all plans to completion. This points to the need for a National Science Foundation. The major functions of such a foundation should be (a) to examine the total scientific research effort of the Nation, (b) to assess the proper role of the Federal

Government in this effort, (c) to evaluate the division of research effort among the scientific disciplines and among fields of applied research, and (d) to evaluate the key factors that impede the development of an effective national research effort. Based upon its investigations, it should advise the President as to the measures necessary to establish a sound scientific research program for the Nation.

In addition, the foundation should be given appropriations for the support of basic research and for research fellowships in fields not adequately covered by the research grants and fellowships of other Federal Government agencies. The foundation might administer the grant and fellowship programs for which it has received funds, or delegate administration to other Federal agencies. In addition, it should advise the President as to the proper balance among research grant and fellowship programs supported by appropriations given to other Federal agencies, and as to major policies that should govern the administration of these programs.

The National Science Foundation should consider most carefully the manner in which national policies with respect to scientific research are related to broader questions of educational policy. At present grants for research purposes are being made on a hit-and-miss basis, making the award of research grants, in effect, a new form of patronage. The awarding of research grants must be put upon a more systematic basis, with due recognition given to their impact on the educational programs of our higher institutions of learning.

Also the Hoover Commission task force report on Federal medical services, emphasizing the vital relationship of basic research to the future of scientific medicine, stated as follows:

We recommend the creation of a National Science Foundation, not as a specific organizational reform in the Federal medical service, but as an obvious means of insuring the strength in basic sciences upon which our national security rests and upon which the future progress of scientific medicine depends. Some members of our committee feel that the foundation should cover the social sciences as well; others stress that it should include lay members. Our concept of a foundation, it should be pointed out, calls for very great powers and resources to sustain and, where necessary, to increase the output of basic scientists, to develop new fields of knowledge, and to support educational and training institutions.

As a people interested in the practical results of scientific research, it is difficult for us to realize how dangerously we have exhausted the scientific resources which make these benefits possible. As Dr. Bush pointed out in his famous report, more than 4 years ago, the bank of scientific brains in Europe, from which we borrowed so lavishly in years past, was shattered by the war. In our own company, we have been living on our scientific capital, so to speak, without making adequate provision for the future.

In my studies as a member of the Joint Committee on Atomic Energy, I have been impressed with the fact that the development of atomic energy rests on a complex pattern of theoretical investigations and discoveries by scientists throughout the world for the past hundred or more years. Basic research is by no means an American monopoly, but we have new and great responsibilities to our own people and to those of other

nations, facilities for conducting basic research must be greatly expanded.

Many more of our young people must be trained for scientific pursuits—for basic scientific research from which flow the practical results that increase the comforts and conveniences of daily life, that make for greater health and happiness, and that guarantee our national security in an age of unprecedented technical developments.

In this connection, I note that social sciences are not specifically excluded from the national science foundation bill as reported by the committee. I hope that the social sciences will receive their full share of attention in the work of the new foundation. We must learn how to live in this new age of science, with its enormous possibilities for human welfare or human destruction. The social sciences have a legitimate place in the work of the proposed National Science Foundation.

As the members know, a number of Government agencies, including the Atomic Energy Commission, already are conducting scientific research programs along certain lines. Section 14 (j) of the bill very clearly provides that the work of the National Science Foundation will not duplicate that of the Atomic Energy Commission. At the same time, section 14, paragraphs (g) and (h) provide a means of integrating Government activities in scientific and technical research.

Establishment of the National Science Foundation will make possible a national policy in these fields, and become an instrument for maintaining the continuity of that policy. Under the impetus of the foundation, private universities and institutions will carry on a large share of the basic scientific research. Presently these institutions cannot conduct unaided the costly programs that modern science requires. And many of our most talented youth cannot, without some financial aid, put those talents to use through education in the universities.

In my opinion, Mr. Speaker, this is one of the most important bills to be considered by this session of Congress. Its enactment will have lasting benefits. It will meet a need recognized by all persons who have concerned themselves with the general welfare of our country in this scientific age.

I believe the hearings show that we had arrived at the point of graduating about 2,000 basic research scientists in 1941. This number declined during the war to about a thousand a year, and we have gradually increased it to about 1,700 a year. So we are still behind in our annual graduation of scientists before we went into World War II.

The CHAIRMAN. The time of the gentleman from California [Mr. HOLIFIELD] has expired.

Mr. HOLIFIELD. Mr. Chairman, I ask unanimous consent to proceed for two additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from California?

There was no objection.

Mr. BROWN of Ohio. Mr. Chairman, will the gentleman yield?

Mr. HOLIFIELD. I yield.

Mr. BROWN of Ohio. Of course, the gentleman will agree that the reason why the number of young scientists dropped off during the war was the foolish policy that the United States had of drafting young scientists into the armed services, regardless of their ability or the need for them in the field in which they were occupied?

Mr. HOLIFIELD. I agree completely with the gentleman's observation. I say that any drafting in anticipation of a future war should be done on a scientific basis, and I mean scientific by not taking those people that are most valuable to our economy in time of a crisis.

Mr. BROWN of Ohio. The gentleman is a member the great Committee on Armed Services, is he not?

Mr. HOLIFIELD. No, I am not, at this time.

Mr. BROWN of Ohio. The gentleman was at one time?

Mr. HOLIFIELD. I was at one time.

Mr. BROWN of Ohio. I hope that when we have this new so-called selective-service extension bill before the House that we will provide for proper exemption of those men who are necessary to science in time of war.

Mr. HOLIFIELD. I certainly trust that if a selective service draft is inaugurated, that it shall be done in the proper manner.

Mr. JOHNSON. I think the gentleman also remembers that England followed a different policy. They exempted those scientists from military service?

Mr. HOLIFIELD. That is exactly right, and we had to lean on England for some of our most important scientists in the field of basic science as well as applied science in the atomic field.

Mr. WADSWORTH. Mr. Chairman, will the gentleman yield?

Mr. HOLIFIELD. I yield.

Mr. WADSWORTH. The figures which the gentleman gave with respect to the number of graduates show that the number had been reduced to 1,000 during the war and immediately thereafter. Those figures have increased to 1,700.

Mr. HOLIFIELD. That is right.

Mr. WADSWORTH. And that figure of 1,700 is already 1 year old.

Mr. HOLIFIELD. Yes.

Mr. WADSWORTH. They are still gaining.

Mr. HOLIFIELD. I am glad to hear that.

Mr. WADSWORTH. It is not nearly as desperate as that figure would indicate.

Mr. HOLIFIELD. I did not mean to say that it was desperate, but I believe the gentleman will agree with me that we are facing an age now where scientific advancement is much more important than it was 10 years ago.

Mr. WADSWORTH. And more and more people are going into it.

The CHAIRMAN. The time of the gentleman from California [Mr. HOLIFIELD] has again expired.

Mr. PRIEST. Mr. Chairman, I offer a technical amendment, which is at the Clerk's desk.

The Clerk read as follows:

Amendment offered by Mr. PRIEST: On page 1, line 4, strike out "1949" and insert in lieu thereof "1950."

The amendment was agreed to.

Mr. RICH. Mr. Chairman, I move to strike out the last word.

Mr. Chairman, sometimes I feel that this is the last word, and that the last word is a question: Shall we be able to survive the things that we ourselves do? The burdens you place upon the taxpayers of America. This question becomes especially pertinent when it is brought out, as was done here this afternoon by the gentleman from New York [Mr. WADSWORTH], that for scientific research in the Army, the Navy, the Marine Corps, and other branches of Government we are spending close to a billion dollars annually. A tremendous sum for research, yet you go at it again. Spend, spend, spend. Notwithstanding this huge expenditure, a bill is brought in today to set up another organization of 24 Board members to be appointed by the President, a bill to establish a bigger and bigger government by setting up this National Science Foundation. On what foundation? A bankrupt Treasury? Apparently no consideration is given to what we may be able to do to save our country from disaster and distress by lightening the load of burdensome expensive government on the people of this country. No thought of the cost of this bill. No thought on your part of where will you get the money.

I do not know where in the world we are going; I do not know where you are headed, except for bankruptcy. Sometimes I think some of you do not care a hoot where we go.

In your own household when your funds are exhausted but somebody in the household gets the idea that a new dishwasher would be nice, a new garbage disposal unit, or a new set of cupboards, a new car or radio; you would not go ahead and obligate yourself, put yourself in debt until you had figured how you were going to be able to finance the improvements; you would try to keep your household on a good sound basis by getting along with what you had. But that is not the way this Congress does things. Just as in the country at large, so in this very House of Representatives, there are many who are always trying to establish something new, who are urging these departments all the time to go ahead and set up these great organizations without regard as to how they can be financed. Will you ever get sensible? The first thing you know our house is going to tumble down on us and we are going to be in the very position Joe Stalin predicted for us, wrecked financially. And whose fault will it be? Why it will be the fault of those men who have been advocating all these things and who have been squandering the taxpayers' money and the resources of the country, foisting the load off onto our children, and our children's children. You ought to be ashamed of yourselves. Honest to goodness, you ought to be ashamed of yourselves. Sometimes I wonder if we have any sense at all. I do not say that we are fools, but certainly we do the things that fools would do. This is about as close as I can come to expressing myself adequately without being thrown out of the Chamber, but I mean every word I have said.

We are in the position right now of setting up this new organization. Two months ago the President said the state of the Nation was good, yet at the time he made that statement he knew that a lot of coal miners were not mining coal; he knew that things were getting tighter and tighter; but because he promised a lot of labor leaders that he would do away with the Taft-Hartley Act he let things go on and on in the coal fields until now there are many communities of the country without sufficient coal to keep warm in this winter weather.

He should have put the Taft-Hartley Act in operation in January and we wouldn't be where we are today, no coal, people freezing, men out of work, a mess by a messer Truman. Whose fault is that? It is due to the dilatory tactics of the Chief Executive in letting this thing go on. He is liable to bring in a bill, and many of you will support it, to nationalize the coal industry of this country. Right there we start in with his socialistic program. You are getting into it up to your neck. Who said it was the President's duty to take over these mines? Why, Bill Green. The labor leaders want it and they are going to try to force you to do it. Shame on you if you take over the coal mines. Next it will be railroads, telephones, and what not. Socialism, New Dealism—everything but Americanism. This bill is not necessary, it is not economical, it is not for the good of the country, and I am opposed to it today. Because Great Britain went socialistic last week is no reason for us doing so. Because Britain wants Atlee instead of Churchill for Prime Minister is their business, but it is our business when they want us to give them a billion and a half to keep the Socialist Government alive. It's your constituent's business and I hope they will take care of you for giving us away, I hope they will take care of our Government by watching how you vote to put us into bankruptcy. I say "be nifty and thrifty in Fifty." Vote this bill down.

The CHAIRMAN. The time of the gentleman from Pennsylvania has expired.

Mr. KEEFE. Mr. Chairman, I move to strike out the requisite number of words.

Mr. Chairman, I take this time to ask a few questions of the distinguished gentleman from Tennessee who was in charge of the writing of this bill, as I understand it, in order that we may get definitely in this Record a very clear legislative intent whenever the question of interpretation of this bill might arise. Some of these questions I have asked during general debate, but I want to ask them again and pin-point them at this time in order that there may be one place in the Record where we can point to and say to whoever may be called upon to interpret the provisions of this bill hereafter: Here is what the Congress had in mind when it passed this particular legislation.

Most Members of Congress are thoroughly familiar with the grant and aid program of the Public Health Service and the programs of research conducted at the National Institute of Health and the programs of research in the field of med-

icine and related activities that are being given gratis to the National Institute of Health programs. If this legislation is passed, is it proposed that those programs will be taken over by the National Science Foundation and administered by it as an operating agency?

Mr. PRIEST. I am glad the gentleman asked that question. I, too, think it is important that at one particular place in the Record, to use the gentleman's words, "we pin-point" this question in order to establish definitely legislative intent.

The answer to the gentleman's question is "No." I have a great interest in these particular grant and aid programs conducted under the jurisdiction of the Public Health Service, as does the gentleman. I appreciate his interest. We have worked together in the past in connection with the Heart Institute, the mental-health program, the Cancer Institute, and other programs. I would not consent to see anything come that would in any way interfere with that categoric work being done by these institutes in the Public Health Service. I reiterate that the answer to his question is "No."

Mr. KEEFE. The answer to the question is "No." May I say to the gentleman that he well knows I have devoted the major part of my legislative work in the Congress during the past 12 years in the field of public health, and I do not want to see any interference or any obstruction of the programs that the Congress has unanimously put into action in the fields that the gentleman has just referred to.

A serious question has arisen in my mind as to whether or not if the National Science Foundation is appointed under the general provisions found in this bill some individual who might be appointed or who may head it might be of strong enough character to say: We are going to take these programs over and run them ourselves as an operating agency. He could do it under this bill?

Mr. PRIEST. I do not think so, and if the gentleman would point out any language which he believes would give the Foundation that authority, I should be happy to examine it, and I know that the committee will.

Mr. KEEFE. All I have in mind, may I say to the gentleman, is the function of the Foundation, specifically section 3, subparagraph (2), page 2, of the bill where it says that the Foundation is authorized and directed to initiate and support basic scientific research in the mathematical, physical, medical, biological, and other sciences.

My question with reference to that is this: You do not mean by that language that they are to disturb the existing programs that the Congress has already established in those fields?

Mr. PRIEST. Certainly we do not mean that they should disturb them, and they could not disturb them without having authority, in effect, to nullify an act of Congress, because all of these programs are established by law and are operating under law, and I do not believe that this language relating to initiating and supporting scientific research could quite be interpreted to

mean that they could nullify an act of Congress, and we do not intend that that be the purpose.

Mr. KEEFE. A further question. There are pending now before the Committee on Interstate and Foreign Commerce a number of bills relating to categorical programs that affect a number of the great menaces to mankind, arthritis, rheumatism, and so forth. I believe there are two.

The CHAIRMAN. The time of the gentleman from Wisconsin has expired.

Mr. KEEFE. Mr. Chairman, I ask unanimous consent to proceed for five additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Wisconsin?

There was no objection.

Mr. KEEFE. I may say to my colleagues that the subject of this colloquy that is taking place between the distinguished chairman of the subcommittee and myself we have previously discussed, and we believe that it is in the interest of proper legislative action to have answers to these questions which I have given a good deal of study to in connection with this bill.

Now I want to ask this question: If the Committee on Interstate and Foreign Commerce decided to pass a bill providing for a new Institute of Health to deal with the problem of rheumatism and arthritis, or multiple sclerosis, or poliomyelitis, or some of the other diseases not covered in the categorical program, you would have no idea but what, when Congress so legislated, those programs would be conducted as the categorical programs are being conducted today, and that the Science Foundation would not disturb or take those programs over.

Mr. PRIEST. I certainly would have no other idea than that any new research institute that might be set up would operate just as those already established are operating insofar as any taking over by the Science Foundation is concerned; provided they are set up on the same basis, they would operate the same, and generally we have the pattern there on which all of those research programs do operate. May I say this to the gentleman—and I want to make this clear—I do not want anything that I might say here to be interpreted as meaning that there could not be a voluntary cooperation between the Foundation and the Public Health Service, if they so desired, but there is nothing in the bill, and it is not the intention of the author of the bill or the committee that reported it to give it any authority to take over any research work.

Mr. KEEFE. I will say to my distinguished friend, if the present bill did not have provision in it that would permit such correlation, I would not think it would be worth while at all. I am heartily in accord with that particular phase of it.

Mr. WILSON of Oklahoma. Mr. Chairman, will the gentleman yield?

Mr. KEEFE. I yield to the gentleman from Oklahoma.

Mr. WILSON of Oklahoma. Every once in a while the gentleman asks the

question whether or not the existing programs could be taken over and operated. May I point out to the gentleman the language on page 17 of the bill in section 14, subsection (c) as relates to operation:

The Foundation shall not, itself, operate any laboratories or pilot plants.

That may refer to the physical plants and the operation of them and the pointing out that they cannot take them over and operate along that line.

Mr. KEEFE. Well, that does not answer the question that I had in mind. While I thank the gentleman for interjecting that, that is not a contribution to the issue that is before us, may I say in my humble opinion, with respect to the question that I asked.

The next question is this, may I say to the Chairman: It has been indicated by many who are interested as I am in the passage of this bill ultimately that they may contemplate that the National Science Foundation itself will come before the Congress and ask for one integrated over-all appropriation dealing with the question of basic research outside of the appropriation for the Atomic Energy Commission, which is exempt from the provisions of this bill. I would ask the gentleman whether or not it is his intent or the intent of the committee that the present system of having the agencies of Government that are charged with the responsibility for conducting the research come before the Congress and present their needs shall be changed in favor of one over-all appropriation request.

Mr. PRIEST. The answer to that question is that there is no intention to have any one agency come before the Congress to ask for an over-all appropriation for scientific research, and there is not contemplated any change in the present policies and practices in that respect.

Mr. KEEFE. I thank the gentleman for his statement in that regard.

I notice that section 3 (a) 6 of the bill has been amended on page 3 at line 6 to provide that the Foundation shall "evaluate scientific research programs undertaken by individuals and by public and private research groups." The bill contained previous to the amendment the following language:

To correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups.

There is a vast difference between correlation and evaluation. I should like to get it clear in the Record as to just what the committee had in mind.

The CHAIRMAN. The time of the gentleman from Wisconsin has again expired.

Mr. KEEFE. Mr. Chairman, I ask unanimous consent to address the House for five additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Wisconsin?

There was no objection.

Mr. PRIEST. I notice the gentleman from Massachusetts [Mr. HESLTON] is on his feet. He has an amendment which he proposes to offer, and which I propose to accept as chairman of the

subcommittee—and I find no objection to it on the part of any member of the committee—which will read as follows, in lieu of the language in paragraph 6 on page 3:

To evaluate scientific research programs undertaken by agencies of the Federal Government and to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups.

The gentleman will notice that the emphasis here is shifted. There is no effort to correlate the other programs with the Foundation but, after evaluating and saying what others are doing, then it is to map its own program and correlate it with the others. I think there is quite a difference there, and that that would answer some of the objections raised by the gentleman from New York [Mr. WADSWORTH] earlier in the day.

Mr. KEEFE. I thank the gentleman, May I ask this further question:

Is it the intent under this bill that in making the evaluation of these programs the Foundation itself shall be compelled to scrutinize and go into each individual budget and approve or disapprove the budget request made by the operating agencies?

Mr. PRIEST. That is not the intention.

Mr. KEEFE. Now this final question:

On page 19, line 6, these words are stricken from the bill:

(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development.

Why did the committee strike out that language if it is the purpose of this bill to maintain the existing research activities of the Public Health Service, for example?

Mr. PRIEST. It is my understanding that this language was stricken from the bill for one or two reasons, largely because it was believed that other sections of the bill, particularly the so-called Heslton amendment and one or two other sections, made this language unnecessary.

Mr. KEEFE. May I say to the gentleman in conjunction with what he has already said with the apparent consent of other members of the committee as to the purpose of the committee in striking this out as to there not being an operating agency so far as the public health is concerned in the National Science Foundation that perhaps it was thought this was not necessary because it is the legislative intent of the committee now that so far as the operating programs of the public health are concerned, they shall not be transferred to the Foundation and it shall not become an operating agency with respect to the health program. Is that correct?

Mr. PRIEST. That is correct, and that generally was the reason for striking this language—it was considered entirely unnecessary at that point.

Mr. KEEFE. I might say to the gentleman having satisfactorily cleared up

these questions which I have had in my mind with respect to this bill, I shall vote for the bill because I think there is no field in the world in which we need activity more than we need it in the field of basic research.

Mr. GROSS. Mr. Chairman, will the gentleman yield?

Mr. KEEFE. I yield.

Mr. GROSS. Where in this bill is this safeguard contained?

Mr. KEEFE. It is contained in the colloquy which has just taken place between the gentleman and myself, which writes the legislative history of this bill and the construction which should be placed upon it. I realize full well that a bureau which may be set up may pay no attention, and the Supreme Court may pay no attention to what has taken place here today, but if they follow the usual practice of legislative construction they will go into these debates and the legislative history of the bill which, in my opinion, will be helpful in determining what the Congress had in mind when it passed the bill.

Mr. JUDD. Mr. Chairman, will the gentleman yield?

Mr. KEEFE. I yield.

Mr. JUDD. Would the gentleman who is now addressing the committee and the gentleman from Tennessee have any objection to putting that language back into the bill in addition to the colloquy that you have had here? Why should it not be put back in?

Mr. KEEFE. I personally would like to see that done.

Mr. JUDD. So would I.

Mr. KEEFE. I would like to see that language on page 19 retained in the bill.

Mr. JUDD. Would the gentleman from Tennessee object to that?

Mr. KEEFE. I think it is good language and shows the intent clearly. It shows that is the intent of the Congress.

Mr. JUDD. That is right. Would the gentleman from Tennessee object?

Mr. PRIEST. May I say to the gentleman, so far as I am concerned, it was not taken out at my request. It was done at the request of some Member, as I recall it, on the minority side of the committee. So far as I am personally concerned, I would not object to it. I do not think it is necessary. But I do not want to take the responsibility on behalf of the subcommittee by saying that I do not object when, as I recall it, it was taken out on motion of some minority Member. Perhaps I am mistaken about that, but I believe I am correct.

Mr. KEEFE. Mr. Chairman, for the past 5 years a proposal for the establishment of a national science foundation has been debated and discussed by people in and out of Congress. I have followed those discussions and debates with consuming interest. I am convinced that a national science foundation properly conceived and properly managed can serve a number of useful purposes. I would like to vote for the pending bill, H. R. 4846. However, I want to understand exactly what I am voting for. My primary interest is in the relationship between the proposed foundation's activities and the existing medical research activities of the Federal Government. I have as a major reward of my public

career the satisfaction of having helped to form and enact the laws that have played a major part in redirecting the medical research of the entire Nation toward diseases that afflict mankind, and of expanding the support for basic medical research in the United States. Permit me to briefly explain first how medical research is being advanced through action taken by the Congress during the last few years.

The communicable diseases that once were the major causes of death are gradually becoming relatively less important. We still have not licked polio, nor do we have tuberculosis completely under control. We have yet to bring other infectious diseases under control. But, in taking death rates and illness rates as a measure, diseases which formerly took a terrific toll in human life and suffering are now under complete control or have been eliminated completely as major causes of death: Venereal disease, pneumonia, yellow fever, typhus, malaria, and many other contagious and infectious diseases have been put under control as a result of the magnificent efforts of the researchers, scientists, and practitioners who now are armed with the implements to keep them under control.

Today, however, heart disease and diseases of the circulatory system, arthritis and rheumatism, cancer and mental disorders are the major causes of suffering incapacity and death. Recognizing the obligation of the Federal Government to lead in the field of basic research in an attempt to put these killers and cripples of mankind under control, the National Cancer Institute was established in 1937. The National Mental Health Institute was established in 1946. The National Heart Institute and the National Dental Research Institute were established in 1948. There is pending today in the House a bill which has already passed the Senate to establish an institute for neurology and blindness and an institute for rheumatism, arthritis, and metabolic diseases. Each of these institutes has or will have the authority to make grants for research and to award fellowships. In addition, they have as a result of the unanimous action of the Congress provided urgently needed funds for construction of research facilities, particularly for heart and cancer investigations. Each of these institutes has a national advisory council composed of outstanding people in each field, together with brilliant laymen who are dedicating themselves to the effort to find the cause and cure of these terrible scourges of mankind. All of the research grants made by the existing institutes are reviewed by nongovernmental specialists of the highest competence. It should be pointed out that under the laws applicable to each of these institutes, the Surgeon General of the Public Health Service can approve no research grant that has not been approved by the appropriate advisory council. This system of supporting medical research is a going concern. I am proud to say that I have had a hand in devising this system and have a degree of pride in the fact that it is one system of Federal aid that

has not resulted in Federal control. The present system protects the freedom of investigators in medical schools, research centers, and in universities. It is helping newer and smaller research centers throughout the country as well as the larger, well-established centers of research. It has received continuous support from people interested in public health matters, and the Congress has reflected that attitude of the general public by overwhelmingly supporting the program now in operation.

I am of the opinion that solely on the basis of dollars-and-cents return and on cold consideration of the Nation's requirements for national defense, we should be appropriating more for medical research. Time will not permit a demonstration of the cold economic facts aside from the humanitarian aspects that are involved. I can state without fear of contradiction, however, that the results already obtained and clearly indicated in the medical research field conducted under the direction of the National Institutes of Health have paid huge dividends to the American people. While the current funds available in the field of medical research are wholly insufficient, in my opinion, at the present time, I think it is only fair to say that the current levels of public expenditure are more nearly adequate than they were before the drive to conquer the chronic and degenerative diseases began in earnest. I am convinced that as a matter of public policy this expanded scale of research is sound and that any contraction would be a disservice to the Nation and the people of the world. Complete candor compels me to state that I shall continue to resist any effort to cut back and limit the efforts of the Federal Government and other public and private agencies throughout the Nation that are conducting such a magnificent fight in the public interest in these fields. This position compels me to try to understand the relationship between the proposed National Science Foundation and the existing medical research program. What will be the effect upon the National Institutes of Health and the vast research programs now being conducted in the health and medical fields?

I have studied the pending bill, and I confess that it is so general in its provisions that I presently do not have a complete answer to the problem. I doubt if there is a member of the Congress that can make a complete and satisfactory explanation. Is the National Science Foundation under the pending bill going to take over the medical research grant and fellowship activities that are now operating smoothly and in a manner that draws the highest praise from the universities of the Nation and the medical schools throughout the country? If that is the intent of this bill, then I shall be compelled to vote against it. I am raising this question during debate so that Members of Congress who feel as I do may have a definite understanding as to what interpretation of the language in the pending bill will be adopted. I suggest, therefore, that those in charge of this legislation make it abundantly clear that it is not the purpose of this legislation to take over and destroy, perchance,

the efficient, smoothly operating program now being conducted by the Institutes of Health under existing law. If I were to vote for this legislation, it would be on the assumption and understanding that this will not happen.

As a member of the Appropriations Committee, I am interested in another question; namely, will all research activities of the Federal Government be submitted to the Congress as a single appropriation requests? I vigorously oppose such a proposal. For more than 10 years I have been a member of the subcommittee of the Committee on Appropriations that has dealt with the appropriations for medical research. I have tried to make it my business to know the needs of medical research and the strength and weaknesses of the Federal Government's activities in this field. I would not like to see medical research relegated to a subitem under a single research appropriation which under general ceilings imposed by the Executive in making his budget would compel those interested in the field of medical research to fight for a reasonable share of the over-all appropriation granted to the Foundation. To do so might well mean that the field of medical research so vital to the welfare of the people of this country might be subordinated to powerful pressure groups demanding funds for research in other fields.

Another question arises; namely, what is the role of the Foundation's Division of Medical Research in relation to the existing medical research grants and fellowship activities of the Federal Government? If the task of the National Foundation proposed in the pending legislation is to be assumption of responsibility for securing appropriations for and administering existing medical-research grant and fellowship programs of the various National Institutes of Health, I would oppose the bill. I would like the committee in the course of the arguments on this bill to make it abundantly clear as to just what the role of the Foundation is to be in the medical-research grant and fellowship programs presently administered by the National Institutes of Health. If I ultimately vote for this legislation, it will be upon the common-sense assumption that the Division of Medical Research created under the provisions of the pending bill would not destroy the present programs of the National Institutes of Health.

I can well see why medical research must be weighed as part of a total national program, and I can see why the full effect of these programs—particularly their effect upon educational institutions—should be carefully considered. These seem to me to be the kind of activities that should be the primary concern of the Division of Medical Research. If the Foundation is to become an operating unit rather than a coordinating and advisory unit operating in the field of medical research, then I seriously question the advisability of adopting that portion of the Foundation bill.

In concluding, may I say that I would like to have clarified the meaning of the two amendments proposed to H. R. 4846 by the Committee on Interstate and

Foreign Commerce. Section 3 (a) (6) of the bill—page 3, line 6—has been amended to provide that the Foundation shall "evaluate scientific research programs undertaken by individuals and by public and private research groups, including scientific research programs of the Federal Government." Does this mean that the Foundation will look at general trends in medical research for the purpose of making recommendations, or does it mean that the Foundation will review the budgets of the medical research agencies in detail? The answer to this question is necessarily involved in the answer to the question as to whether or not this program contemplates the submission to the Congress of one over-all research budget. If it is the intent of this amendment to authorize the Foundation to present to the Congress the detailed budgets of funds necessary in connection with the Federal program of research and grants, then I should be compelled to oppose the amendment. The bill as originally drafted defined the Foundation's interest in this matter in the following language:

To correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups.

There is a vast difference between the provision as originally written in the bill and the amendment proposed. The substitution of the word "evaluate" for the word "correlate" completely changes the meaning and intent of this section. I would ask that the committee in proper time explain in detail just what this amendment means in order that the Foundation if and when created will understand what the legislative intent was.

I also note that the committee which considered the bill proposes that section 14 (h)—page 19, line 6—be stricken. If you will turn to the printed bill you will observe that the original language provided "the activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any other functions or activities of other Government agencies authorized to engage in scientific research or development." Why has this provision been stricken from the bill? I can see that it might be advisable to reshuffle many of the research activities of the Federal Government and that this clause might possibly forestall some highly desirable changes. At the same time I do not believe that the elimination of this provision should be construed as blanket authority for the Foundation to disturb research activities that are logically located and that are operating satisfactorily. I have heretofore made my position on this matter clear so far as the medical-research grant and fellowship activities of the National Institutes of Health operated by the Public Health Service are concerned. I now ask the sponsors of the bill to explain what they had in mind when they proposed deleting this clause, and whether my interpretation of their action is a correct one.

I also note on page 19 of the bill that provision is made for the transfer to

the Foundation of funds to be expendable by the Foundation for the purposes for which the transfer was made, and the paragraph ends with this language: "and until such time as an appropriation is made available directly to the Foundation for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds." This is a very broad, sweeping grant of authority and power to expend transferred funds. I would ask the committee to make it clear just why limitations on the expenditures of funds for administration written into appropriation bills by the Congress should be eliminated when funds are transferred to the Foundation. It will be noted that the appropriation authorized under this bill is without limitation, and in my humble judgment it should clearly be shown to the Congress what savings, if any, can be anticipated in the event this legislation becomes law.

I shall carefully listen to the arguments, and I trust that someone from the committee will be able to answer the questions which I have raised. My vote for or against the pending bill will be determined by the character of the answers which are received during debate to the questions which I have raised.

Mr. HINSHAW. Mr. Chairman, I rise in opposition to the pro forma amendment, merely to state to the gentleman that if the amendment of the gentleman from Massachusetts [Mr. HESLTON] is to be placed in the bill, for the purpose of evaluating scientific research programs undertaken by the Federal Government, then if this language in subsection (h) remains in the bill it might possibly prevent the Foundation from making a proper evaluation of whether or not there was overlapping and duplication in the Federal Government as among its various agencies in conducting basic scientific research programs. There is every reason, I believe, why the gentleman being a member of the Committee on Appropriations would want the Board to report on any such overlapping or duplication in order that due economy might be had in the expenditure of the public funds.

As a matter of fact, it is my opinion that the enactment of this bill and the establishment of the Foundation and its activities in evaluating scientific research and correlating scientific research will provide a considerable saving over the amounts now being expended. That does not mean that the Foundation would have the power to strike any budgetary item from any budget, but they certainly should take a good long look at the multitude of different research projects that are being conducted now under the aegis of the Federal Government.

Mr. KEEFE. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield.

Mr. KEEFE. The gentleman is addressing himself now, as I understand it, to the proposed Heslton amendment, which has been referred to.

Mr. HINSHAW. No. I am talking about the remarks of the gentleman opposing striking out the language con-

tained in subsection (h) on page 19, which I think it would be well to strike.

Mr. KEEFE. Why should we not leave it in?

Mr. HINSHAW. I hope the committee will accept the amendment as it stands, which strikes out the language, because if you leave this language in the bill and say, "shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development," then you may rob this agency of any right to criticize or to point out that there is duplication going on in the various Government agencies. It seems to me that it is a matter of protection for the Federal budget to take that language out.

Mr. HARRIS. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield.

Mr. HARRIS. The gentleman's statement is very appropriate in response to the suggestion that was made by the gentleman from Wisconsin [Mr. KEEFE] and the gentleman from Minnesota [Mr. Judd]. The real answer is in the next section, is it not, whereby authority is given and there may be cooperation between agencies of the Government in carrying out the functions and purposes of scientific research.

Mr. HINSHAW. That I think is very important.

The CHAIRMAN. The time of the gentleman from California [Mr. HINSHAW] has expired.

(Mr. RICH asked and was given permission to revise and extend his remarks.)

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that the bill be considered as read and printed in the Record at this point and be open for amendment at any point.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

The bill is as follows:

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation"). The Foundation shall consist of a National Science Board (hereinafter referred to as the "Board") and a Director.

FUNCTIONS OF THE FOUNDATION

SEC. 3. (a) The Foundation is authorized and directed—

(1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(2) to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

(3) after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants,

loans, and other forms of assistance) for the conduct of such scientific research;

(4) to award, as provided in section 10, scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups;

(7) to establish such special commissions as the Board may from time to time deem necessary for the purposes of this act; and

(8) to maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including its Territories and possessions.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

(c) The Foundation shall render an annual report to the President for submission on or before the 15th day of January of each year to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. Such report shall include in full the report of the Executive Committee to the Board, provided for in section 6 (e), and information as to the acquisition and disposition by the Foundation of any patents and patent rights.

NATIONAL SCIENCE BOARD

SEC. 4. (a) The Board shall consist of twenty-four members to be appointed by the President, by and with the advice and consent of the Senate, and of the Director ex officio, and shall, except as otherwise provided in this act, exercise the authority granted to the Foundation by this act. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, the Association of Land Grant Colleges and Universities, the National Association of State Universities, the Association of American Colleges, or by other scientific or educational organizations.

(b) The term of office of each voting member of the Board shall be 6 years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this act shall expire, as designated by the President at the time of appointment, eight at the end of 2 years, eight at the end of 4 years, and eight at the end of 6 years, after the date of enactment of this act. Any person who has been a member of the Board for twelve consecutive years shall thereafter be ineligible for appointment during the 2-year period following the expiration of such twelfth year.

(c) The President shall call the first meeting of the Board, at which the first order of business shall be the election of a Chairman and a Vice Chairman.

(d) The Board shall meet annually on the first Monday in December and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the voting members of the Board shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record not less than 15 days prior to any meeting, of the call of such meeting.

(e) The first Chairman and Vice Chairman of the Board shall be elected by the Board to serve until the first Monday in December next succeeding the date of election at which time a Chairman and Vice Chairman shall be elected for a term of 2 years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Board shall elect a member to fill such vacancy.

DIRECTOR OF THE FOUNDATION

SEC. 5. (a) There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate, after receiving recommendations from the Board. He shall serve as a nonvoting ex officio member of the Board and also as the nonvoting Chairman of the Executive Committee. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of 6 years unless sooner removed by the President.

(b) In addition to the powers and duties specifically vested in him by this act, the Director shall, in accordance with the policies established by the Board, exercise the powers granted by sections 10 and 11 of this act, together with such other powers and duties as may be delegated to him by the Board; but the powers granted by sections 10 and 11 (c) shall be exercised only with the approval of the Board.

EXECUTIVE COMMITTEE

SEC. 6. (a) There is hereby established an Executive Committee of the Board which shall consist of the Director ex officio and nine other members elected by the members of the Board from among their number. The term of office of each member of the Executive Committee shall be 2 years except that (1) any member elected to fill a vacancy occurring prior to the expiration of the term for which his predecessor was elected shall be elected for the remainder of such term; and (2) the term of office of four of the members first elected after the date of enactment of this act shall be 1 year. Any person who has been a member of the Executive Committee for six consecutive years shall thereafter be ineligible for election during the 2-year period following the expiration of such sixth year. The membership of the Executive Committee shall, so far as practicable, be representative of diverse interests and shall be so chosen as to provide representation, so far as practicable, for all areas of the Nation.

(b) In addition to the powers and duties specifically vested in it by this act, the Executive Committee shall exercise such powers and duties as may be delegated to it by the Board.

(c) The Executive Committee shall meet at the call of its Chairman or at such times as may be fixed by itself, but not less than six times each year.

(d) A majority of the voting members of the Executive Committee shall constitute a quorum.

(e) The Executive Committee shall render an annual report to the Board, and such other reports as it may deem necessary, summarizing the activities of the Executive Committee, making such recommendations as it may deem appropriate, and setting forth the recommendations of the divisional committees and special commissions. Minority views and recommendations, if any, of members of the Executive Committee, the divisional committees, and special commissions shall be included in such reports.

DIVISIONS WITHIN THE FOUNDATION

SEC. 7. (a) Until otherwise provided by the Board there shall be within the Foundation the following divisions:

- (1) A Division of Medical Research;
- (2) A Division of Mathematical, Physical, and Engineering Sciences;
- (3) A Division of Biological Sciences; and
- (4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

(b) There shall also be within the Foundation such other divisions as the Board may, from time to time, deem necessary.

DIVISIONAL COMMITTEES

SEC. 8. (a) There shall be a committee for each division of the Foundation.

(b) Each divisional committee shall be appointed by the Executive Committee and shall consist of not less than five persons who may be members or nonmembers of the Board.

(c) The terms of members of each divisional committee shall be 2 years. Each divisional committee shall annually elect its own chairman from among its own members and shall prescribe its own rules of procedure subject to such restrictions as may be prescribed by the Executive Committee.

(d) Each divisional committee shall make recommendations to, and advise and consult with, the Executive Committee and the Director with respect to matters relating to the program of its division.

SPECIAL COMMISSIONS

SEC. 9. (a) Each special commission established pursuant to section 3 (a) (7) shall consist of 11 members appointed by the executive committee, six of whom shall be eminent scientists and five of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.

(b) It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being carried on in its field, and to formulate and recommend to the Foundation at the earliest practicable date an over-all research program in its field.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

SEC. 10. The Foundation is authorized to award, within the limits of funds made available specifically for such purpose pursuant to section 15, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Foundation to be possessed of substantially equal ability, and there are not sufficient

scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.

GENERAL AUTHORITY OF FOUNDATION

SEC. 11. The Foundation shall have the authority, within the limits of available appropriations, to do all things necessary to carry out the provisions of this act, including, but without being limited thereto, the authority—

(a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;

(b) to make such expenditures as may be necessary for administering the provisions of this act;

(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other government agencies of the United States and of foreign countries, of such basic scientific research activities and such scientific research activities in connection with matters relating to the national defense as the Foundation deems necessary to carry out the purposes of this act, and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes;

(d) to make advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by this act;

(f) to receive and use funds donated by others, if such funds are donated, without restriction, other than that they be used in furtherance of one or more of the general purposes of the Foundation;

(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the act of January 12, 1895 (28 Stat. 622), and section 11 of the act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to provide transportation and subsistence as authorized by section 5 of the act of August 2, 1946 (5 U. S. C. 73b-2) for persons serving without compensation; and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 12. (a) Each contract or other arrangement executed pursuant to this act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this act shall be construed to

authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however,* That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

INTERNATIONAL COOPERATION AND COORDINATION WITH FOREIGN POLICY

SEC. 13. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable. The Director, with the approval of the Executive Committee, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this act.

(b) (1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c), and the authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only after consultation with the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

(2) If, in the exercise of the authority referred to in paragraph (1) of this subsection, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

MISCELLANEOUS PROVISIONS

SEC. 14. (a) The Director shall, in accordance with such policies as the Executive Committee shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1923, as amended: *Provided,* That the Director may, in accordance with such policies as the Executive Committee shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this act. The Deputy Director hereinafter provided for, and the members of the divisional committees and special commissions, shall be appointed without regard to the civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of the Executive Committee, hold any office in, or act in any capacity for, any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this act.

(b) The Director may appoint, with the approval of the Executive Committee, a

Deputy Director who shall perform such functions as the Director, with the approval of the Executive Committee, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director.

(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

(d) The members of the Board, and the members of each divisional committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation pursuant to authorization of the Foundation, and shall be allowed travel expenses as authorized by section 5 of the act of August 2, 1946 (5 U. S. C. 73b-2).

(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees and special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(f) Service of an individual as a member of the Board, of a divisional committee, or of a special commission shall not be considered as service bringing him within the provisions of section 281, 283, or 284 of title 18 of the United States Code or section 190 of the Revised Statutes (5 U. S. C., sec. 99), unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly nonprofit organizations, in the States, Territories, possessions, and the District of Columbia, (3) aiding institutions, agencies, or organizations which, if aided, will advance basic research, and (4) encouraging independent basic research by individuals.

(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development.

(i) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

(j) The National Roster of Scientific and Specialized Personnel shall be transferred from the United States Employment Service to the Foundation, together with such records and property as have been utilized or are available for use in the administration of such roster as may be determined by the Director of the Bureau of the Budget. The transfer provided for in this subsection shall take effect at such time or times as the

Director of the Bureau of the Budget shall direct.

(k) The Foundation shall not support any research or development activity in the field of atomic energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. Nothing in this act shall supersede or modify any provision of the Atomic Energy Act of 1946.

(l) The executive committee, after consultation with the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under this act, and for the proper safeguarding of any information or property so classified.

APPROPRIATIONS

SEC. 15. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated annually to the Foundation, out of any money in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this act.

(b) Appropriations made pursuant to the authority provided in subsection (a) of this section shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the acts making such appropriations.

The CHAIRMAN. The Clerk will report the first committee amendment.

The Clerk read as follows:

Committee amendment: On page 3, line 3, strike out lines 3 to 5, inclusive, and insert the following language:

"(6) to evaluate scientific research programs undertaken by individuals and by public and private research groups, including scientific research programs of agencies of the Federal Government, and to correlate the Foundation's scientific research programs with such programs."

Mr. HESELTON. Mr. Chairman, I offer an amendment to the committee amendment.

The Clerk read as follows:

Amendment offered by Mr. HESELTON to the committee amendment: Strike out paragraph 6 of section 3 (a) on page 3, line 6 through line 11, and insert in lieu thereof the following:

"(6) to evaluate scientific research programs undertaken by agencies of the Federal Government and to correlate Foundation scientific research programs with those undertaken by individuals and by public and private research groups."

Mr. HESELTON. Mr. Chairman, I shall speak briefly on this, with apologies to those who were here when I stated that I would offer this amendment at the proper time. In the interest of saving time, I would like to read briefly from the last page of the Hoover report:

This points to the need for a National Science Foundation. The major functions of such a Foundation should be (a) to examine the total scientific research effort of the Nation, (b) to assess the proper role of the Federal Government in this effort, (c) to evaluate the division of research effort among the scientific disciplines and among fields of applied research, and (d) to evaluate the key factors that impede the development of an effective national research effort.

The second recommendation of the Hoover Commission is:

(b) The Commission recommends that a National Science Foundation be established.

I called attention previously to the report of the President's Special Board appointed in 1946, which is contained at the beginning of page 49 of the second annual report of the Secretary of Defense. There are two paragraphs I would like to emphasize.

The Army and Navy have vigorous research development programs which had grown up over a period of years. When the Air Force was constituted as a separate branch of the armed services its research development efforts represented a third important program. The size, diversity, and complexity of the fields covered by these programs make sound planning increasingly important.

The coordinating activities of the Research and Development Board enable each department to become aware of what the other departments are doing in research and development. Unnecessary duplication is thereby located and eliminated or prevented. More difficult, but probably of greater significance, is the Board's continuing responsibility to shift emphasis and funds away from programs of lesser military promise and into those of greater value. The existence of such a coordinating agency makes it possible to stretch the research and development dollar and to cut costs.

The President's board in one of its reports has pointed out that what is needed is that each of these hundreds of agencies in our Government that are engaged in extensive research programs should review those programs, should evaluate them, should set up a long-range plan which should then be submitted to this Foundation so that we could integrate them into a national program.

Since the Second World War the military expenditures on research have averaged over half a billion dollars a year. Although this is but a small portion of the average total military budget, it is a large figure in comparison to the much smaller sums spent on military research and development before the war—in comparison, say, to the \$13,000,000 obligated for military research and development in 1939, the year World War II began. The amount of money currently being spent for research and development is only slightly less than the entire military appropriation for 1924, and is almost 50 percent as much as the total military appropriation as late as 1937.

In the National Defense Establishment this committee has been able to report that it has actually brought about substantial savings through this coordination. It makes the statement on page 61:

Formally effected coordination is illustrated by recent Board action on the recommendation of the Committee on Guided Missiles request that three existing projects be terminated and two others combined into one. Through this action an estimated \$6,000,000 in plant obligations for the fiscal year 1950 was made available for allocation to other guided missiles projects of high priority.

Carrying that over into the other fields of major research we can confidently anticipate, I believe, a much better and well-rounded program.

I call your attention finally to this: The proposed amendment places the emphasis upon evaluation of scientific re-

search programs undertaken by the Federal Government, not by the universities, not by the industries, not by private research. We have no business going into that and telling them: "You shall do this; you shall not do that." That is their business and they should be permitted to plan and conduct their own business. But this Foundation, if we adopt this amendment, would be under the obligation of correlating the Foundation's program with those of individuals and of public and private research groups. I am hopeful that my colleagues in the House will see it as do my colleagues on the committee.

Mr. SMITH of Wisconsin. Mr. Chairman, will the gentleman yield?

Mr. HESELTON. I yield.

Mr. SMITH of Wisconsin. Does the gentleman agree that the Hoover recommendation refers to Government enterprise?

Mr. HESELTON. Absolutely and exclusively.

Mr. SMITH of Wisconsin. What assurance does private industry have that the Government will not take it over? What is meant by the word "correlate"?

Mr. HESELTON. The language has been submitted to draftsmen and to industry, and it has been approved by industry specifically. It is to correlate the Foundation's scientific research program, nothing else; correlate our Federal program with what is being done in the country by universities, industries, and in other public-research programs. I can assure the gentleman that it has met with the approval of substantial business interests which are engaged in this field with very heavy investments.

Mr. SMITH of Wisconsin. I have my doubts about that.

Mr. PRIEST. Mr. Chairman, I move to strike out the last word merely to say that the committee accepts the amendment offered by the gentleman from Massachusetts [Mr. HESELTON] to the committee amendment.

Mr. JAVITS. Mr. Chairman, I favor this amendment and the bill.

This amendment providing for correlation in the whole field of scientific research is extremely valuable for there is nothing exclusionist about such research, nor are any particular areas of research to be included or excluded because other agencies, public or private, are working on them. It is therefore most desirable that correlation be teamed with evaluation as is done by the pending amendment. This in the best interests of the most effective and complete scientific research.

With respect to the general purposes of the bill itself it is indeed gratifying that it is now being considered and that the objections which caused the President to veto a similar bill passed by the Eightieth Congress have apparently been overcome. In a day of A-bombs and H-bomb, an effort to restore the balance between applied and pure science is entitled to our convinced support.

It is gratifying to know too that, on the whole, although there is opposition to some features of this bill on the part of scientists and others who have studied the subject because of certain inade-

quacies, notably those relating to the broadest distribution of research grants, and questions of patent rights and co-operation with international agencies, there appears to be strong support for the bill from scientists and educators everywhere.

My own wartime experience and that of many other Members of the House taught us the critical place in our social and economic development and in the development of our national security of fundamental research in the sciences. We have made spectacular achievements in applied science, pure research, however, is the base for all such achievements, whether done here or elsewhere. The march of the world forward demands no less of the nation on earth with the best technical equipment, and which has done the most with it for the human well-being as well as for international peace and security, than that we undertake this additional measure to make more effective our great resources for scientific research.

(Mr. JAVITS asked and was given permission to revise and extend his remarks.)

Mr. CRAWFORD. Mr. Chairman, the gentleman from New York [Mr. WADSWORTH] has very well stated that most obvious objections to this bill as I see them. There are, however, certain ill-omened implications in the philosophy of science, or rather of many—too many—scientists, which deserve attention from those who are to administer this act so as to remedy the tragic naïveté involved in such cases as those of Drs. May and Fuchs, and of Hiss and others in this country.

It hardly seems that the infiltration of communism in world politics can be checked while we cling to a Socialist concept of political action and, accordingly, play me-too politics with the demagogues of the Kremlin. We can hardly hope to promote world peace while democratic statesmanship consists of trying to assure the material welfare of humanity, not by compelling responsible behavior—not by confining government to the functions which maintain law and order and so assure decent incentives by the reward of economic security through private property—but by falsely guaranteeing that which can be available only through the industry, thrift, and intelligence of a responsible and abstentious citizenry.

Science, or rather scientists, seem to be telling us that we can forget what the desire for welfare, when not impelling anarchy and pillage, has always dictated, namely, abstention. Not merely the intelligent use of nature's bounties, but also prevention of the plundering of the planet under excessive population pressure, is the only possible path to permanent peace and the control of the industrial Frankenstein which scientists, as technicians, are constructing.

A government which is paternalistic, not by restraining, but by promoting, the expansion of population, cannot fail to become either a totalitarian aggressor bent on taking the earth's resources from other races and nations, or else a decadent bureaucracy seeking in vain to

guarantee full employment at high wages to everyone and to assure no hardship for anyone. It is not possible to temporize with such policies—to steer a safe political course among the world's races by promoting universal abundance with the hope of thus containing communism by allaying unrest. In this situation scientists are having a disturbing influence because they are divorcing their calling from moral standards, just as are most other people, through the philosophy of materialism.

Even biologists, who should know better, are preaching that life itself is mechanistic. By drawing the red herring of their doctrinal dispute with the Kremlin's Lysenko—as to whether the promised land of milk and honey is to be reached by Mendelian or by Lamarckian theory—over the trail of their own materialism, they are obscuring the very basis of moral restraints provided by the idea of a selective struggle for survival which was instilled into Darwin's concept of evolution by Thomas Malthus. We may cite among those who are so engaged, Prof. Theodosius Dobzhansky of Columbia University who asserts, in a recent issue of *Science*, that competition and the struggle for life are misleading metaphors which should be removed from the vocabulary of science.

By no means all scientists are thus deluding themselves and their public. Dr. Warren Thompson, of Ohio, and other careful students of demography, that is, of human population problems, are no utopians nor do they consider that human populations tend to decline as their security advances. That the truth is exactly to the contrary should give pause in developing a foreign policy based on the idea that industrialization of backward areas will restrain population and make for peace on earth and good will among men. Permit a few observations quoted from Professor Thompson's essay in the February *Scientific American*. After citing figures on Swedish experience indicating that lower birth rates and higher death rates were the result of poor harvests, he says: "In the long view, Malthus was fundamentally correct when he said that man's growth in numbers was largely dependent on the supply of subsistence." Improvements in agriculture have "had exactly the effects that Malthus had predicted the provision of more ample subsistence would have on population growth. For a time it appeared that in the Western World we no longer needed to give serious attention to the ideas of Malthus, that we had learned how to produce at a rate in excess of any possible rate of population growth, and that we could look forward to an easier life no matter how high our birth rate or how low our death rate."

Now, however, "experience in Japan gives tangible support to the belief of demographers that the industrially backward areas of the world are likely to grow rapidly in population during the next century as they industrialize." In the "Malthusian countries" of the Orient, like India, "the population seems to grow whenever subsistence increases and

to stop or even decline at times of scarcity and great epidemics."

Professor Thompson believes that these problems have a very direct relation to the maintenance of peace. In a world which is filling up as ours is, and which is one world whether we like it or not, the urgent question regarding the livelihood of a growing people soon becomes a matter of concern to all nations. Hence there is a need to begin to plan for such changes in population growth as will contribute best to human welfare.

It seems far less clear to natural scientists that it should be that there never has been any time in which the extent of life on earth has been found to be cumulative. It has always depended upon the amount of solar energy which plant life could, currently, capture in its synthesis of organic compounds for the sake of the plant's own offspring. Other species have intruded into a struggle over this limited supply. The struggle has begotten a myriad of forms, many now extinct in addition to those whose strategies still suffice for survival.

Man's dominance is thus not a matter of being able to control the environment in any sense of mastering the physical limitations of the planet and going on to unprecedented miracles of expansion unrelated to other living things. The genus homo has developed a cultural, technological method of bypassing the limitations of anatomical form; this use of machinery and other techniques has produced a sudden dominance over other species. These others have become easy prey—so easy, indeed, that many species have succumbed and are extinct, which once afforded large supplies of food. Many a localized civilization has arisen and disappeared by such developments. But it will be a new and terrible experience, indeed, that seems imminent today in the currently worldwide explosion of population to be followed by inevitable disaster, unless population can be controlled by a system of enterprises that is free for all—but not free from competitive restraints which compel those who are unable to make the grade to be eliminated, not by the fury of hydrogen bombs that science seems about to release in a dysgenic holocaust, but by being good losers in a game that not every genetic element on earth can win.

If this sort of peaceful genocide is not impressed upon the human race, so that the unfit in ideological or other groups are forced to quit by failure to reproduce as fast as they die naturally, the kind of genocide which wars produce and which the United Nations Organization is naively proposing to stop by a so-called convention, will surely take up the surplus sooner or later in a state of affairs where the horrors of peace are not exceeded by those of war.

It seems to be, not venality, but rather a naive faith in materialism that is undermining the morale of our scientists and bringing about such cases as those of Dr. May and Dr. Fuchs, and, in our own midst, the academic apologies for such inane betrayals of America as we have seen among American scholars, such as Alger Hiss, who have had, personally,

everything to lose and little to gain by their Communist sympathies.

The Foundation for Promoting Basic Science which these same academic interests are urging before this body seems not to be in hands which have a clear understanding of the best interests of science apart from the welfare of scientists. Indeed, the most potent factor in the advance of science seems to me to have been crowded out in the four technical divisions provided for. I see little hope, in this specialization, for escaping the Babylonian confusion which the Rockefeller Foundation has said exists in the ranks of science. The director of that foundation not long ago allotted a fund to the effort at eliminating these difficulties in the state of scientific thought. Basic science can certainly be advanced less by technological developments by specialists than by basic philosophical considerations. This could be accomplished, moreover, without the tremendous expenditures which are indicated as too much for private funds to attain while already unbalanced Federal budgets are producing rising costs which dissipate endowments at an increasing pace.

Finally, Mr. Chairman, in support of this suggestion for economy and accomplishment, I present some pointed phrases taken from an essay on the Scientist—Technician or Moralist? which makes rather plain the relation of the academic scientist to the social ills that we are enduring. The author is Prof. George Simpson of the City College of New York, writing in the current issue of the magazine, *Philosophy of Science*, published under the editorship of Dr. Churchman of Wayne University in Detroit. I quote:

When faced with moral problems, natural scientists have developed the habit of running away from science itself. * * * As scientists they glory in being technicians; this eases their consciences by leaving ethics to moral philosophers or mystics. * * * Although he has handed over moral problems to the philosophers, the average natural scientist frowns upon philosophy as aimless speculation on the unsolvable problems which nobody but an impractical visionary would spend his time on. * * *

It would seem that the retreat from morality by science is now full, for the dominant view in social science today is that social scientists might well learn from natural scientists how to achieve a new social status derivative from what can be subsidized rather than from what requires investigation. * * *

Moral retrogression and material progress are part and parcel of the bifurcation of science and morality. The insolubility of moral problems by science gains ever more credence as material problems become more and more soluble by "applied science"; that is, technology. As industry becomes more and more rationalized, "morality becomes less and less rational. * * *

Truth which is arrived at socially is proceduralized so that it loses its valuative aspect and becomes sanctimonious. It becomes a form of social worship, not a form of social understanding. * * * Nobody in this situation is supposed to question the worth of science, for science does not question the worth of so-called moral behavior. By avoidance of moral issues science reigns supreme. * * *

To engage in an attempt to help structure society so as to make possible the subservience of emotion, interest, and desire, to rationality, is to become a pariah, an outcast, a troublemaker, and, most unkindest cut of all, to be damned as uncooperative by a non-cooperative society. It is small wonder, then, that the scientist is led to accept the social position he finds and to join in the mass chorus which sings his praises as a technician who will help anybody discover anything as long as he does not have to tell them what to do about it.

The full cycle is completed when the social scientist joins in the chorus and asks that he, too, be permitted to join this gallant ship's company sailing the seven seas on a social pleasure-pain cruise * * *. Truly, "Come All Ye Faithful" can be sung in praise of Mammon. Out in the cold, like the poor looking in on the banquet board, is a motley crew of philosophers who are paying the price for not devoting their lives to asking only the proper questions. Perhaps it is not too much to expect that soon philosophers too will find their way into the ranks of the technicians. * * *

Scientists have been taken in by the soft words of praise for their devotion to the cause of humanity spoken even by those who may use scientific work to defeat the ends of reason. The severing of science from morality is part of a more general process in modern society whereby means have triumphed over ends.

In the battle of pressure groups in modern society the scientist is considered as one among many, asking no quarter and seeking no quarter. The state becomes an umpire between truths, so-called; the victor need give no hostage to reason. Indeed, reason itself becomes an attribute of political victory. The final, crowning triumph occurs when truth is what political power proclaims. Aryan races, the new mythos, an elite without natural talents other than administrative, a world made in the image of man's irrationality—these are the ripe fruits of science in the service of politics which has no allegiance to social truth.

(Mr. CRAWFORD asked and was given permission to revise and extend his remarks.)

The CHAIRMAN. The question is on the substitute amendment offered by the gentleman from Massachusetts.

The substitute amendment was agreed to.

The CHAIRMAN. The question is on the committee amendment as amended by the substitute.

The committee amendment, as amended, was agreed to.

The CHAIRMAN. The Clerk will report the next committee amendment.

The Clerk read as follows:

Committee amendment: Page 10, line 20, insert "(a)" after the figure 10.

The committee amendment was agreed to.

The CHAIRMAN. The Clerk will report the next committee amendment.

The Clerk read as follows:

Page 11, line 16, insert the following:

"(b) No part of any funds appropriated or otherwise made available for expenditure by the foundation under authority of this act shall be used to make payments under any scholarship or fellowship to any individual unless there is on file with the foundation an affidavit executed by such individual that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government

by force or violence or by any illegal or unconstitutional methods. The provisions of section 1001 of title 18, United States Code, shall be applicable in respect of such affidavits."

Mr. ROGERS of Florida. Mr. Chairman, I offer an amendment to the committee amendment.

The Clerk read as follows:

Amendment offered by Mr. ROGERS of Florida to the committee amendment: Page 11, line 19, after the word "unless" insert "(1)", and on page 12, in line 1, strike out the period and insert in lieu thereof the following: "(2) the affidavit is accompanied by such supporting evidence as the foundation may by regulations require, and (3) the director and at least five of the voting members of the executive committee are satisfied that the statements made in the affidavit are true."

Mr. ROGERS of Florida. Mr. Chairman, the amendment offered by the committee does not go quite far enough. That is the only objection I have. The amendment states that payments can be made if there is an affidavit executed by the individual to the effect he does not believe in and is not a member of and does not support any organization that believes in or teaches the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods.

The Foundation under this verbiage, therefore, would be authorized to make payments to a Communist who files such an affidavit.

I add two propositions to this, first, that the affidavit must be accompanied by such supporting evidence as the Foundation may by regulation require. In other words, the Foundation can pass a regulation as to what is required in the affidavit to be filed. Everyone will know what that is by looking at the records. They can tell what those regulations are.

My second addition is that the director and at least five of the voting members of the executive committee must be satisfied that the statements made in the affidavit are true. That is a protection to the Foundation.

Mr. COX. Mr. Chairman, will the gentleman yield?

Mr. ROGERS of Florida. I yield to the gentleman from Georgia.

Mr. COX. The gentleman is simply undertaking to provide an additional precaution against taking into the organization people who are not loyal to the United States Government?

Mr. ROGERS of Florida. That is all it is. I am glad the gentleman from Georgia asked that question. That is my only purpose. It throws some duty on the Foundation and the director to determine whether the affidavit is true or not. In the past few days Alger Hiss has been convicted of perjury. Another fellow down here, Christoffel, was convicted the other day for perjury. Now, what difference does it make to a Communist who wants to secure an advantage, who wants to take our courses over here? He would sign an affidavit and the Foundation would be absolutely justified in admitting him if the affidavit was merely on file. They do not have to go into any details. They do not have to

go into the truth or falsity of it. The simple fact it is filed would justify payments of this scholarship or other fund.

Mr. DINGELL. Mr. Chairman, will the gentleman yield?

Mr. ROGERS of Florida. I yield to the gentleman from Michigan.

Mr. DINGELL. The gentleman refers to Communists. Let us take a look at other applicants. Whether they are under the cloud of suspicion of being a Communist or not, will they be allowed? Suppose it is a decent citizen and not a Communist, does he have to go through the swearing that he is not a communist or does he have to submit other evidence?

Mr. ROGERS of Florida. Under the amendment offered by the committee you have to do that. But, this just puts a little more safeguard for them to justify his being made made a payment.

Mr. DINGELL. It does not cast any reflection on the character of a man who was not a Communist.

Mr. ROGERS of Florida. Not at all. It casts no reflection on anybody.

Mr. RICH. Mr. Chairman, will the gentleman yield?

Mr. ROGERS of Florida. I yield to the gentleman from Pennsylvania.

Mr. RICH. I think the amendment offered by the gentleman is a good one. I think the committee ought to have no doubts at all about the sincerity of the gentleman in asking for this amendment. Anybody who is communistically inclined should not be on the commission or be employed by the commission.

Mr. ROGERS of Florida. I thank the gentleman. You all know of an instance—I will not call his name—in North Carolina, having to do with the Atomic Energy Commission. Why, he was there taking advantage of the courts, taking our American money, and he was a Communist. They afterwards found it out and dismissed him. This only throws a safeguard around anybody before they can take our money. As for me, I do not want a cent of American money to go to a Communist for anything; I do not care what it is.

Mr. HOLIFIELD. Mr. Chairman, will the gentleman yield?

Mr. ROGERS of Florida. I yield to the gentleman from California.

Mr. HOLIFIELD. Of course, I understand the gentleman's purpose, and we all have the same purpose in mind. But, when you require an affidavit from a person that he is not a Communist, and he subjects himself to the laws of perjury, how can you double protect such a thing as that?

Mr. ROGERS of Florida. I want to say that the committee amendment provides that.

Mr. HOLIFIELD. How can you strengthen that?

Mr. ROGERS of Florida. He must have the supporting evidence. I hope we have enough good Americans here to adopt this amendment.

Mr. HOLIFIELD. What kind of supporting evidence, beyond his affidavit?

The CHAIRMAN. The time of the gentleman from Florida has expired.

Mr. ROGERS of Florida. Mr. Chairman, I ask unanimous consent to proceed for five additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Florida?

Mr. WIER. I object, Mr. Chairman.

Mr. HARRIS. Mr. Chairman, I rise in opposition to the amendment.

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. HARRIS. I yield to the gentleman from Tennessee.

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that all debate on this amendment close in 5 minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

Mr. WIER. I object, Mr. Chairman.

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that all debate on this amendment close in 10 minutes.

Mr. WIER. I desire 5 minutes, Mr. Chairman.

The CHAIRMAN. Is that on the committee amendment and all amendments thereto?

Mr. PRIEST. On the committee amendment and all amendments thereto.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

Mr. PRIEST. Mr. Chairman, I renew my request to make it 15 minutes. I see a number of the subcommittee seeking recognition. I ask unanimous consent that all debate on this amendment and all amendments thereto close in 15 minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

Mr. SHAFER. I object, Mr. Chairman.

Mr. McCORMACK. Mr. Chairman, will the gentleman yield for a parliamentary inquiry?

Mr. HARRIS. I yield.

Mr. McCORMACK. As I understand, the 10-minute limitation has already been agreed to.

The CHAIRMAN. The gentleman is correct. That was agreed to.

Mr. HARRIS. Mr. Chairman, reluctantly I rise to oppose the amendment offered by my good friend and our esteemed colleague and member of the committee, the gentleman from Florida [Mr. ROGERS]. I know that deep in his heart he is sincere; he is honest and has every good intention as is utterly possible by proposing the amendment. I respectfully submit to the committee, however, that it is certainly unnecessary to have an amendment such as my good friend proposes; in fact, it can do nothing except confuse the administration of the act as it applies to scholarships and fellowships.

I am as vigorously opposed to any funds proposed by this act for scholarship or fellowship being made to anyone that does not hold sacred allegiance to the United States, as the gentleman from Florida, or any other Member of this Congress. I am just as anxious as he or anyone else that no Communist or fellow traveler be permitted to participate in the program. I do not believe there should be any windfall or any op-

portunity for such another experience as occurred in a university in connection with the atomic-energy program.

The gentleman is a good lawyer. It is well known under our judicial procedure that there is a severe penalty for perjury. Therefore, we provided that none of these funds to be appropriated can be used by anyone unless there is an affidavit by such party that he does not believe in and is not a member of and does not support any organization that believes in or teaches the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods.

And further, the committee amendment provides specifically that the provisions of section 1001 of title 18, United States Code, shall be applicable in respect of such affidavits. In other words, the penalty provisions of the law shall apply without any possible doubt when perjury is committed.

Security, yes; we should have stringent security provisions but they should be workable. It would be wholly impractical for the executive committee of the Foundation to have to go out and make an investigation to determine whether or not a man commits perjury. The gentleman knows that it is not only administrative action but that the executive committee would be required to do the work of the law-enforcement officers and the courts.

There is no doubt in anyone's mind but what this Congress adequately and appropriately dealt with this same question in connection with the Atomic Energy Commission. The committee amendment is identical with the provision the Congress adopted as applies to the Atomic Energy Commission. Therefore, Mr. Chairman, the committee amendment included in the bill providing that before scholarship awards can be made there must be such affidavit on file to the effect that the party involved is not a Communist and has no affiliation at all with any Communist organization or any other organization that would overthrow our form of government is the correct approach.

Mr. COX. Mr. Chairman, will the gentleman yield?

Mr. HARRIS. I yield to the gentleman from Georgia.

Mr. COX. What is the affidavit worth when it comes to one who is disloyal to his country?

Mr. HARRIS. It is worth just what perjury was worth in the Alger Hiss case. It is worth what any other affidavit required under the laws of our country is worth, that if a man perjures himself he is subject to the penalty of the law. It is not a question for the Board or the Foundation to determine, it is a question for the institution to determine when these scholarships are awarded.

The gentleman from New York [Mr. WADSWORTH] a moment ago said that one of the grave fears he has in his mind about this legislation is the inevitable control of the institution. Are you going to set up this Foundation composed of six or more men who will tell any institution in the United States who may

have a scholarship award? That is exactly what you are doing here. Talk about the control of your educational institutions. You would certainly authorize the Foundation, without any question, to determine by your amendment who will receive scholarship awards.

Mr. ROGERS of Florida. Mr. Chairman, will the gentleman yield?

Mr. HARRIS. I yield.

Mr. ROGERS of Florida. I call the gentleman's attention to the fact that irrespective of what the Foundation does the payments for these scholarships cannot be made until the director and a majority of the executive committee are satisfied that the affidavit is true.

Mr. HARRIS. The scholarship award is made through an institution who has the students. It is not altogether the determination of the Foundation on a particular student. What you would provide is for the Foundation to make any determination it wants to in any institution in the United States on any man or any student that might want a scholarship or fellowship. I believe the gentleman has not sufficiently considered the amendment he has proposed.

Mr. Chairman, I urge that the Committee defeat the amendment.

Mr. SHAFER. Mr. Chairman, I make the point of order that a quorum is not present.

The CHAIRMAN. The Chair will count. [After counting.] One hundred and four Members are present, a quorum.

The Chair recognizes the gentleman from Minnesota [Mr. WIER].

[By unanimous consent, at the request of Mr. MARSHALL, the time allotted to him was granted to Mr. WIER.]

Mr. WIER. Mr. Chairman, I believe that the time has arrived for educational institutions to assert their positions, and I personally believe that it is obvious that acceptance of the principle of thought control, in any form or manner, will be fatal to American education, scholarship, and to democracy itself. If such regulations as those in force in Executive Order 9835 were made applicable to the student body and faculty of the University of Minnesota, there would be an instant change in the intellectual climate of the institution. Very few persons would dare discuss the merits or demerits of progressive legislation except in private with most trusted friends. The free play of ideas would be a thing of the past because no one could trust others not to be in the secret service of an organization whose duty it was to report on dangerous ideas. The university administration itself would lose authority to determine fitness for enrollment as a student or employment as a staff member. That authority would pass to a Federal board.

I have ascertained that Federal employees here in Washington have adopted the attitudes I outlined above, and I know for a fact that many competent persons have left Federal employment rather than be subject to the intellectual and emotional harassment of the loyalty order and associated investigations.

Perhaps I should make my position clear. I favor every protection of American democracy against any overt act

perpetrated to overthrow it by any unconstitutional means. I would prosecute to the full extent of the law any perpetrator of such an act. If membership in any organization can be established by due process of law to constitute such an overt act leading to clear and present danger to our democratic system by unconstitutional means, I would favor construing the act of joining such an organization as a crime, and punishable, not, however, by any *ex post facto* law or rule. However, I believe with Bernard de Voto, who said in another connection—Harpers, July 1949, page 63—"that the right of free speech cannot be restricted unless a 'clear and present danger' to society exists—and exists with such immediate urgency that there is no time to answer idea with idea."

The road to totalitarianism is paved with bricks, each one of which exposes a face acceptable or even desirable to a majority. Totalitarianism itself is simply a system in which minorities have no rights or protection. The minority is itself a different group on every individual issue. The genius of Anglo-Saxon common law and the virtue of the American Constitution consisted first of all in the protection they afforded to minorities. If those qualities are lost, civilization is set back a thousand years.

It is my opinion that although we should have governmental assistance for the support of scientific research in this country the public interest would be badly served if such support were granted with the inclusion of a loyalty clause governing students and employees in every institution in the country expecting to use such funds.

I believe it will be obvious to you that the inclusion of such a clause would change the intellectual environment of every institution covered by it just as it has already changed the intellectual plan for workers in the Government services. It is not unsafe to predict that frank and open discussion of political problems will be very largely eliminated in American colleges and universities if Federal aid to education and science is coupled with Federal loyalty clearance. I have no doubt that the great preponderance of persons to whom such rules might apply would be cleared without question. However, the very fact that secret derogatory information might mean the loss of one's job, will encourage most persons to keep all of their ideas to themselves. I feel sure that this is not what you and other Members of our Congress desire to have happen to our academic institutions. It is, of course, incompatible with the principles of freedom for which we all stand. I intend to use my good office to prevent such a calamity from occurring in connection with Federal aid to science and education. We can better afford to go without the aid than to jeopardize our most cherished traditions which distinguish us from the totalitarian states.

(Mr. WIER asked and was given permission to revise and extend his remarks.)

The CHAIRMAN. The gentleman from Wisconsin [Mr. KEEFE] is recognized.

Mr. KEEFE. Mr. Chairman, I take this time merely to call the attention of the distinguished gentleman from Arkansas [Mr. HARRIS] to the fact that I think he was in error when he made the contention that the awards of scholarship provided for under this bill are made to educational institutions. I have some knowledge of the scholarship awards that are made under authority of the United States Public Health Service, and I find the situation here is exactly the same, and that the scholarships are directed to individuals. The National Science Foundation selects the individuals itself, as provided for in section 10, on pages 10 and 11 of this bill. Therefore, it is of extreme importance to see to it that the individuals who are selected are people that we can trust. The Commission itself is charged with that responsibility. So the arguments that are being made that there is interference with academic freedom, and all that sort of thing, on the campuses of the universities, pales into insignificance in face of the fact that the Commission itself is charged with the responsibility of granting these scholarships and fellowships to individuals.

In my humble opinion, we cannot be too safe. I think the gentleman from Florida [Mr. ROGERS] has a very decent perfecting amendment.

The CHAIRMAN. The time of the gentleman from Wisconsin [Mr. KEEFE] has expired.

The Chair recognizes the gentleman from South Carolina [Mr. BRYSON].

(Mr. BRYSON asked and was given permission to revise and extend his remarks.)

Mr. BRYSON. Mr. Chairman, I am strongly in favor of this bill and particularly anxious to vote for the adoption of the amendment offered by the gentleman from Florida.

Mr. Chairman, in the first session of the Eightieth Congress we passed S. 526, the National Science Foundation Act of 1947. This bill was vetoed by the President, but he stated that he was in favor of the Science Foundation and only objected to its administrative organization as unsound. It deprived the President of the control of an agency which clearly fell in the executive branch of the Government. Such an administrative structure could have developed into an autonomous agency controlled by private research institutes and universities.

There is no doubt a strong popular interest among the public and, with scientists in particular, for Federal support of scientific research. The discovery of spectacular weapons of war such as the atomic bomb, hydrogen bomb, and radar has forced us to recognize that the national security, the general welfare, health, and prosperity of our people are dependent upon our maintaining strong scientific resources. The miracle of production of airplanes, tanks, and other weapons of war was brought about by the cooperation of Government, industry, workers, scientists, and engineers. This could not have been accomplished without the men of science who had the know-how and who designed the machines and taught the

workers how to use them. After the battle of Britain Churchill remarked, with regard to heroic work by the RAF's fighter pilots, that scarcely in the history of the nation "had so many been so dependent upon so few." Likewise, our technicians, engineers, and scientists played a similar role in this country's war effort.

Fundamental scientific research in the past has known no national boundaries. Scientists could draw upon the wealth of scientific discovery throughout the world. But with the prostration of Europe, the source of many basic discoveries in the past, it is now imperative that the United States increase greatly fundamental research in science. Some may ask, why spend the taxpayers' money for basic research which may not have any immediate application? When Faraday, the famous English physicist, made his great discoveries in electricity, which were the forerunner of the whole modern electrical industry, he was asked by Gladstone about the use of his discoveries. He replied that it was like a newborn baby and how it developed only the future could say, but if the Government would keep an eye on it, no doubt they would find something in the future which they could tax. How true this statement was.

Since we considered this bill in the last session of Congress, there has appeared the valuable report by the President's Scientific Research Board, under the chairmanship of Dr. John R. Steelman. This Board consisted of representatives of the various agencies and included many of the ablest men in the executive branch of the Government. The report in five volumes made a thorough survey of scientific resources in the United States. No doubt the Members of this House are familiar with the Board's findings and recommendations.

This Board considered the future needs for scientific men in government, industry and in colleges and universities. For example, it is estimated that in 1957 the Nation would need 270,000 scientists, while today we have about 137,000 scientific workers. Industry must recruit more research scientists if they are to continue to produce new and better products in the next few years. In fact, the full employment of our workers and the high level of our national income are greatly dependent upon the applications of the basic laws of science developed in the research and university laboratories.

At present in some of the newly organized Government laboratories there are many scientists who have had only partial training and are not fully equipped to carry out high caliber research work. As more well-trained scientists are available this condition will be remedied. As more and better trained men are produced by the universities the level of scientific institutions will be improved. Thus our universities now face a double problem, namely, of producing enough scientists to meet the present shortage and also to train men for future scientific expansion.

In order that our universities may expand their scientific programs it is essen-

tial that the Federal Government provide assistance. When the Government embarks upon a new program, it should be comprehensive and reach into every State of the Union. Financial assistance for expansion should be granted to both colleges and universities. Sometimes the importance of the liberal arts colleges in educating future scientists and inspiring them to enter the field of science is overlooked. According to the Steelman report, of the 44 institutions which rank in the highest group, in the number of graduates who have taken the doctorate in science for each 1,000 students, 39 of these institutions are liberal arts colleges, rather than universities. The following statement is taken from the Steelman report:

During the years 1936 to 1945, Furman University—

My own alma mater—

Oberlin College, Reed College, and Miami University (Ohio) together graduated more students who later completed doctoral work in physics than did Ohio State University, Yale University, Stanford University, and Princeton University combined.

I am proud that my alma mater, Furman, is in such distinguished company and has rendered such excellent service to science.

This record is, indeed, remarkable when the total number of students in the two groups of institutions is taken into consideration. However, it should be added that not all small colleges make such an unusual record. It is well known to graduate-school faculties that our small colleges are the source of many graduate students in our universities. To raise the scientific standards of these colleges, improve their equipment and faculties will materially raise the level of graduate work in the universities. Moreover, this policy will greatly increase the sum total of the Nation's scientific resources.

At present the most important scientific centers of graduate work are almost entirely confined to three regions; namely, the northeastern part of the United States, the Great Lakes region, and California. The institutions in these three areas granted about 85 percent of the Ph. D.'s in science during the 10-year period 1936-45. In regions where scientific research has been developed to a high level the attracting of competent young people may already be approaching the saturation point. Moreover, the situation of a single science department with several hundred graduate students is not very conducive for the highest type of graduate training. As a national policy, it would be highly desirable to have a series of strong graduate schools throughout the Nation.

In the social security grants and the proposed program of Federal aid for the public schools included in S. 472 it is recognized that the States with lower economic levels are in need of greater Federal assistance. In the States of lower economic ability the colleges and universities have not yet been able to improve their educational standards because of lack of funds. The Federal-aid program for scientific research should help to bring the institutions of these

regions up to the national level. In some of the smaller institutions the scientific equipment is quite meager, and the only way that their students learn about the common instruments for scientific measurements is by reading about them and from illustrations in textbooks. To give students the proper background for scientific careers they should learn the use of these instruments as undergraduates.

The direct attention to the nature of scientific research in the South, with especial interest to scientific men themselves, two important studies have been made. Dr. Wilson Gee of the University of Virginia, published in 1932 his book entitled "Research Barriers in the South," in which he analyzed and presented significant data concerning what he called the drag out of the South. In his analysis of the 1927 edition of American Men of Science, a biographical dictionary of approximately 14,000 eminent American scientists, he found that 1,094 of them had been born in the South. Of this group of southern-born scientists, only 154 or one-sixth had received their graduate training in southern universities, while the balance had been trained in universities outside of the South.

What is the situation today? Fortunately we now have a comparable study through the courtesy of Dr. M. H. Trytten, of the National Research Council, whose generous cooperation recently made available the results of his work. This study is concerned with the training and careers of 389 younger scientists from the four Southern States of Alabama, Florida, Georgia, and my native State of South Carolina, who took their Ph. D.'s in the 10-year period, 1936-45. Of this group of budding scientists, 95 individuals or 24 percent of the group, received their doctorates from 11 of our southern universities, although 78 of them took their degrees from the four following southern institutions, Duke, Florida, North Carolina, and Virginia. However, there were no doctorates in science conferred by institutions in the three States of Alabama, Georgia, and South Carolina.

The balance of this group, 215 or three-quarters of these southern-born scientists, earned their Ph. D.'s from 39 universities outside the South. The four universities, Chicago, Cornell, Iowa, and Wisconsin conferred doctorates upon 87 men in this group, which is only slightly less than the total number of 95 individuals who took their degrees from our southern universities. It is thus apparent that in terms of advanced scientific training the South is only slightly less dependent upon outside universities for the training of its scientific leaders than it was 20 years ago. For the 112 Ph. D.'s recipients from my own State of South Carolina, the story is substantially the same. Of this group of young scientists, only 35, or less than one-third were trained in southern universities; while the balance, almost 70 percent of the group, left the South for their graduate training.

Not only are our southern-born scientists trained in large numbers in institutions outside the South, but unfortunately, a substantial number of them find

it necessary or choose to carry on their scientific careers in other sections of the country. The Gee study of 20 years ago, indicated that only 40 percent of the southern-born scientists listed in American Men of Science served in educational institutions, research agencies, government, and industry in the section of the country in which they were born and raised. In contrast, the Trytten study indicated that of the group of younger scientists, 207 or 53 percent are now working in the Southern States. In the case of the 112 scientists from South Carolina, 57 or about one-half are working in the South. We are glad that our southern scientists are in demand for scientific positions over the entire Nation. However, we are anxious to develop strong research centers to hold more of our promising young men and to attract superior scientists from other sections of the Nation in exchange for our southern-born scientists.

Despite this increase in the number of southern-born scientists who continue to work in the South, Dr. Gee's optimistic forecast in 1932, that "a similar analysis made 10 or 20 years from now will likely show a substantially different result due to the marked development of graduate opportunities in several leading universities" has not yet been realized. We continue to suffer from what he termed the "drag out of the South," and still export a considerable portion of that rare and much-needed commodity, trained scientific manpower, to other regions. However, this situation is not confined to the South. There is reason to believe that the training and location of scientists is not markedly different for the Rocky Mountain and Southwestern States.

It is largely by reason of data of this character and similar data that our southern educational and scientific leaders are very much interested in this legislation. They are anxious, however, that it will be so administered, particularly the scholarship and fellowship provisions, as to permit the development of a stronger group of institutions throughout the South for the better training of more scientists. We are anxious to encourage the training of a larger group of scientific leaders who will assist the South to staff properly its colleges, universities, and research agencies so as to provide a more effective basis for the development of our resources and for the training of better scientists. We do not object to the migration of our men in science or our leaders in other fields, but we want it to be more than a one-way traffic out of the South.

From the statistics made available by Dr. Trytten it is seen that the South is now producing about one-third of the scientists compared to the national average. Better and more scientific equipment and better trained professors are urgently needed. Moreover, first-rate laboratories will enable us to hold our first-rate men.

If there are scientific centers in a State, the people are more conscious of science and are more willing to support it. Also in terms of the general cultural value and the general diffusion of knowl-

edge, a scientific center in a region is important. Therefore it would be for the advantage of the entire Nation to secure a better distribution of scientific research. More equitable distribution should apply not only to the South, but to the Southwest and the Rocky Mountain region which are lower than the national average in science training. According to the Steelman Report, institutions in 14 States granted no Ph. D.'s in science in the period 1936-45. Three of the States were in New England, 5 were in the South and 6 were in the Rocky Mountain region, and during the same period the universities in 26 States granted fewer than 4 percent of the total Ph. D.'s in science. On the other hand, the universities in 11 States granted 80 percent of the doctorates in science. By increasing the number of scientific centers there is no desire to curb or handicap our great universities, of which we are all proud. They should be equally included in this program but should not make up most of the expansion of training facilities under Federal aid. It should be remembered that northern and particularly eastern private universities have consistently been the recipients of large grants for research from foundations.

It might be argued that more research would be obtained by granting the funds to a few superior institutions. This would probably be true for the first few years. However, over a decade the general distribution of research centers would accomplish much more, and from the point of view of national security and welfare on which we are now spending large funds, the distribution of research centers over a wide area would be distinctly advantageous. During World War II a small number of the well-developed laboratories were used on research projects, since they were ready to expand and could produce results in a short time. However, the aims of a science foundation in peacetime are different and require a much more general expansion. In case of another national emergency we would have many high-grade laboratories on which to call for assistance.

The importance of this point of view was clearly recognized by the Bush report, Science, the Endless Frontier, published in July 1945, which made the following unequivocal recommendation:

It is, in fact, essential to the healthy growth of science that the Foundation should help to spread the research spirit as widely as possible throughout the United States. If the recruitment of future scientific personnel is to proceed from a sufficiently broad base, it is important that as large a number of students as possible be made aware of the research point of view. Many of our colleges and engineering schools are not now able to support a significant amount of research.

CONCLUSION

In conclusion I want to endorse the objectives and organization of the National Science Foundation. I also should like to emphasize several items in order that the Science Foundation will be of the greatest value to science and the Nation. First, it should be administered by a board with a chairman and

should be a part of the executive branch of the Government with the same general controls which regulate other agencies. Second, because of the lower economic level of the Southern States and because their training facilities, universities, and laboratories, are not yet as well developed as the institutions of the North, Middle West, and the West the Federal funds should be granted more generously, at least for a few years, to the institutions of the South and the Rocky Mountain States. This would enable the institutions of these areas to overcome their present handicaps and achieve the level of scientific training of other sections of the Nation.

To follow the practice I advocate would merely use Federal funds to bring about a badly needed balance. Third, the Foundation's board should be empowered to grant research funds, only to institutions which meet certain minimum standards which it would establish to carry out the aims of the Science Foundation.

The CHAIRMAN. The gentleman from New York [Mr. JAVITS] is recognized.

Mr. JAVITS. Mr. Chairman, I take this time to ask the chairman of the subcommittee handling this bill whether he believes, in view of the extensive hearings held by the subcommittee, that this amendment is necessary, or whether he agrees with our colleague from Arkansas [Mr. HARRIS] that the amendment is not necessary. Scientists and scholars from Columbia University and other great institutions of higher learning which are located in the district of New York which I have the honor to represent have told me that many excellent men in the field of scientific research, with excellent backgrounds and records, are quite restive over being picked out as special objects of investigation when they are trying to cooperate in connection with the scientific effort of the Government. That is particularly true of the younger men, who feel keenly on the subject.

Mr. PRIEST. While I want to safeguard any measure of this sort, I share the opinion of the gentleman from Arkansas [Mr. HARRIS], after having looked into this subject rather extensively during the public hearings, that the amendment proposed by the gentleman from Florida [Mr. ROGERS] is not necessary for the legislation.

Mr. JAVITS. I believe that the Committee of the Whole certainly ought to be guided by the view of the subcommittee, which has examined the matter so extensively, and which I am sure shares the solicitude for the Nation's security, which prompted the gentleman's amendment. We certainly want those who do the research to proceed with full confidence and enthusiasm and a conviction of the fairness of the rules in effect.

Mr. HARRIS. It is my understanding that language contained in this bill which was reported by the committee, this amendment requiring the affidavit, is the identical language that is contained in the bill providing for the Atomic Energy Commission.

Mr. JAVITS. That ought to be sufficient to satisfy the Members.

The CHAIRMAN. The time of the gentleman from New York has expired.

The Chair recognizes the gentleman from California [Mr. HINSHAW].

Mr. HINSHAW. Mr. Chairman, I think the position taken by the gentleman from Tennessee [Mr. PRIEST] and the gentleman from Arkansas [Mr. HARRIS] should be concurred in by the House. As a member of the Joint Committee on Atomic Energy, I can say to you that the amendment offered by my beloved friend from Florida [Mr. ROGERS] would require an FBI investigation of everyone who is to come under this act, as none of this work can be conclusive. Let me point out to you that the really dangerous people in the United States are not these young students. They are people like this man Fuchs, who can fool everyone, because no one can find out what their connections are. They are the really dangerous people in the United States.

I hope that the House will not accept this amendment, as it would place undue restrictions, not upon the candidates for fellowships, if you please, but upon the members of the Scientific Board set up under this bill. At least five members would have to be satisfied that the affidavits were reasonably true. That is beyond the capabilities of the members of the Board.

Mr. HARRIS. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield.

Mr. HARRIS. Is it not a fact that this bill proposes that the Board shall consist of 24 members? The amendment proposed by the gentleman from Florida confines the decision to five members.

Mr. HINSHAW. Any five.

Mr. HARRIS. Any 5 out of the 24.

Mr. ROGERS of Florida. Let me call attention to the fact that an executive board is set up of nine members. Five must be satisfied as to the truth of the affidavits. They have not got to get all of the members to agree; only five, a quorum, have to be satisfied.

Mr. HINSHAW. They cannot possibly be satisfied except upon an FBI investigation. They are not investigators.

The CHAIRMAN. The time of the gentleman from California has expired.

Mr. PRIEST. Mr. Chairman, I believe this amendment has been adequately discussed.

I appreciate the sincerity of my colleague from Florida with whom I have worked on the committee. I merely feel that the amendment in this respect is not necessary and is unworkable.

Mr. BROWN of Ohio. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. BROWN of Ohio. The gentleman states that in his opinion the Rogers amendment is unnecessary. The adoption of the Rogers amendment, however, would not hurt anything, would it? It would simply be another safeguard; and, as the gentleman has explained, only a majority of the executive board of nine would have to be satisfied as to the truth of the affidavit.

Mr. PRIEST. I think it might hurt something in this connection, that if you take the time of a majority of this board

to establish questions of the truth or falsity of affidavits it might become an endless sort of trial and investigation. That, I think, does not belong in legislation of this sort. I am just as anxious as is the gentleman from Florida or any other Member of this House to see that we do not give any aid to Communists, but I do believe that it might impose on five members of the executive committee rather serious responsibilities that would require a procedure that would be pretty well endless insofar as satisfying themselves that an affidavit was true. They might have a chain of affidavits. That could be an almost endless investigation in connection with one affidavit.

The language here used is identical with the provision of the AEC Act, and in the opinion of the committee, it is the best solution of this problem.

The question is on the amendment offered by the gentleman from Florida [Mr. ROGERS] to the committee amendment.

The question was taken; and on a division (demanded by Mr. ROGERS of Florida) there were—ayes 49, noes 70.

Mr. ROGERS of Florida. Mr. Chairman, I demand tellers.

Tellers were ordered, and the Chairman appointed as tellers Mr. PRIEST and Mr. ROGERS of Florida.

The Committee again divided; and the tellers reported that there were—ayes 63, noes 73.

So the amendment to the committee amendment was rejected.

The CHAIRMAN. The question is on the committee amendment.

The committee amendment was agreed to.

The CHAIRMAN. The Clerk will report the following committee amendments.

The Clerk read as follows:

Committee amendments:

Page 19, strike out lines 6 to 10, inclusive. Page 19, line 11, strike out "(1)" and insert "h."

Page 19, line 23, strike out "(j)" and insert "(1)."

Page 20, line 7, strike out "(k)" and insert "(j)."

Page 20, line 15, strike out "(1)" and insert "(k)."

Mr. JUDD. Mr. Chairman, I rise in opposition to the committee amendment.

Mr. Chairman, this matter has been discussed at considerable length earlier in the debate this afternoon. The committee amendment would strike out the language on page 19 from line 6 to line 10, inclusive. It seems to me that this amendment ought to be kept in the bill. It merely makes sure that this Foundation cannot supersede, curtail, or limit any of the functions or activities of other government agencies, Public Health Service or Agricultural Department or Defense Department or other agencies which are carrying on scientific research and development.

The gentleman from Arkansas [Mr. HARRIS], a while ago said he thought it was covered in the next subsection, beginning with line 11. I do not see how the two either overlap or are in conflict. The subsection, lines 11 to line 22, says

that the funds available to any department or agency of the Government for scientific or technical research can be transferred, if the head of the Department or agency so wishes, to this Foundation. I think that is good. But, to keep the preceding language in that the committee is moving to strike out would not interfere with any Government agencies making their funds available to the Foundation if they thought that was the best way to carry on the particular functions.

I do not want to belabor the point. It just seems to me we ought to make sure that this new Foundation is not going to have authority to interfere with or impede or curtail or limit or take over any functions that are now being carried on by various research agencies or other departments of Government, unless the latter so desire.

Mr. HESELTON. Mr. Chairman, will the gentleman yield?

Mr. JUDD. I yield to the gentleman from Massachusetts.

Mr. HESELTON. I thoroughly understand the gentleman's concern with the elimination of that language. May I suggest to him that if you put that language back in again you will nullify the effect of the amendment I offered.

I call your attention to the fifth report of the President's Scientific Research Board, and its recommendations on policies. I think this is exactly the sort of procedure that should be conducted. It is entitled "Balancing Research." It calls attention to the fact that one-fourth of all medical research projects in all agencies are in determining etiology. It then goes on further to discuss every specific research program. Then it makes this recommendation:

To the extent permitted by law, the agencies of the Government should move promptly to correct this imbalance. Because the research work of the Public Health Service is not directed to the medical problems of special population groups and because that agency has been charged by the Congress with responsibility for the health of the whole population, it should direct increased research effort to those diseases and impairments which are now receiving insufficient attention but which are major causes of death and disability.

I submit to the gentleman that with that type of a policy, knowing that we are ranging all over this field and perhaps placing too much emphasis on one thing and too little on another, we should give this Foundation power to examine the programs that they are undertaking, these people who are working in that field, and then tell us where the better emphasis could be made, and where we will get a sounder program. But, I think if you put that language back in you would, in effect, say, "Don't you even look at another agency's program."

Mr. JUDD. I do not see where the gentleman can find that meaning in the language. Rather, it says that the Foundation shall supplement, in full accordance with the gentleman's own quotation from the Hoover Commission report, where there is need or imbalance. It should determine and correct the imbalance by putting in additional research activities where they ought to be, if pres-

ent agencies are not carrying them on adequately. But I do not want it to take over and operate programs that other agencies are now carrying on. It ought to supplement them, and there is nothing in the language to prevent its making recommendations for changes. That is good. But I have more confidence in the agencies that are already working in many fields and which have carried on the activities for a long time. They have invaluable experience. I want them to be left where they are, with this Foundation studying them and evaluating them, and then supplementing their work where there is any imbalance.

Mr. WADSWORTH. Mr. Chairman, will the gentleman yield?

Mr. JUDD. I yield to the gentleman from New York.

Mr. WADSWORTH. The gentleman has referred to the paragraph commencing in line 11 on page 19 in his discussion of the inadvisability of accepting the committee amendment which strikes out lines 6 to 10.

I call the attention of the gentleman from Minnesota to the fact that in line 12 the phrase "scientific or technical research" is used, which has nothing to do with basic research. This is another instance of this Foundation going far beyond basic research. It can go into technical research.

Mr. JUDD. I thank the gentleman for his contribution. I am as concerned as he about language in the bill in several places which could be construed to include functions far beyond those its sponsors have described to us.

But returning to the committee amendment, I cannot see how keeping those five lines in the bill can do any damage. It seems to me they constitute a necessary safeguard particularly during the first year of two when this new Foundation is getting under way. If experience demonstrates that its proper work is impeded under this language, and it cannot move to correct any imbalances that may exist, then we can take a second bite and strike it out later. But when this new Foundation is being set up, we ought to make clear just what we want it to do and not to do.

Mr. Chairman, I hope the amendment will be defeated.

Mr. HINSHAW. Mr. Chairman, as a member of the committee I desire to support the committee amendment.

Let me call attention to the fact that the committee amendment strikes out the language contained in subsection (h) on page 19. There is a very good reason for striking out that language. That language says that the activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies. It is not intended by the Foundation that it will supersede. Of course, it is supplementing, but in order for the foundation to take any action to correct overlapping and duplication of scientific research in the many agencies of Government that are now engaged in scientific research it certainly should have the opportunity of making any devices to the Bureau of the Budget or the President or even to an

agency itself if that agency can be persuaded that it is overlapping or duplicating the work of some other agency. If this language is left in, it is quite possible that they will have no authority to make any such recommendation. I have discussed the matter with the gentleman from Massachusetts [Mr. WIGGLESWORTH] and I think he will agree that the language should go out of the bill.

Mr. WIGGLESWORTH. I agree with the statement the gentleman has made, and I think the language should go out.

Mr. JUDD. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield to the gentleman from Minnesota.

Mr. JUDD. Do I correctly understand that with this language out of the bill the gentleman believes the Foundation could curtail the activities of other agencies, and could supersede or limit or otherwise interfere with their activities?

Mr. HINSHAW. With the language out I think it is perfectly clear that the Heseltan amendment, which provides that the Board shall evaluate scientific and research programs undertaken by agencies of the Federal Government, can be effective; that is, in the matter of evaluation. I do not see in any way that taking the language out would permit them to supersede. The language simply would not be in the act, and no questions could be raised as to whether or not they were superseding any functions of any other agency.

Mr. JUDD. If this language is removed from the bill, then the National Foundation, as the gentleman says, will not have the authority to supersede, but there would be nothing to prevent them from doing it.

Mr. HINSHAW. I know that the gentleman seeks every efficiency and economy in government. If he leaves this language contained in subsection (h) in the bill there will be no possibility of the Board's making any savings to the Federal Government by evaluating the overlapping and duplicating work that is now being done by the various agencies.

Mr. JUDD. But even with this language in the bill, the Foundation could still evaluate the activities being carried on by other agencies and could make recommendations regarding overlapping.

Mr. HINSHAW. I think it would impair the value of the work of the Board in doing that evaluating.

Now I should like to address my remarks to the gentleman from New York, who criticized the language in line 12, to the effect that funds available to any department or agency of the Government for scientific or technical research shall be available for transfer with the approval of the agency.

Sometimes there are funds for technical research or development which cannot go forward until certain basic or scientific research has been done. If an agency of the Government wants to do certain technical work, they must have the basic scientific knowledge. If, in order to obtain that scientific knowledge, they desire to transfer any technical research funds to the Board for the purpose of doing basic research, then they should be permitted to do so. I

think the gentleman from New York is incorrect in his assumption. I hope the amendment of the committee leaving subsection (h) out of the bill will be approved by the House.

Mr. BROWN of Ohio. Mr. Chairman, I rise in opposition to the pro forma amendment.

Mr. Chairman, I have asked for this time in order to propound an inquiry to the distinguished gentleman from Massachusetts, the majority floor leader. It is my understand that within a few moments a motion will be made for the Committee to rise. I wonder if the gentleman could inform us as to what the program will be, so far as the remainder of this bill is concerned, and on tomorrow?

Mr. McCORMACK. I am glad that my friend made that inquiry so that I can advise the membership. It is true that after the disposition of this committee amendment the gentleman from Tennessee will move that the committee rise. The consideration of the remainder of the bill will go over to tomorrow. The first order of business tomorrow will be a motion to take from the Speaker's desk and send to conference the basing-point bill. Probably an hour will be taken on that particular question.

Following that, the continuation of the consideration of this bill will be the order of business and after that the rural rehabilitation trust funds bill will come up. How far we will go on that tomorrow I am unable to state, except that that will be the order of business.

To return to the program, it will be as printed—statehood for Alaska and then statehood for Hawaii.

Mr. BROWN of Ohio. I thank the gentleman very much.

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that debate on the committee amendment close in 5 minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

Mr. CHRISTOPHER. Mr. Chairman, I move to strike out the last word.

Mr. Chairman, I have listened very attentively to the discussion of this measure this evening. I intend to vote for it. I am heartily in accord with the objects of this legislation. I did not intend to seek the floor or take any time until I saw that apparently something has happened that I never have known to happen before, and never expect to see see happen again. You know usually when the lamb and the lion lay down together, the lamb is inside the lion before they lay down. That does not seem to be the case here. The Congress of Industrial Organizations, the American Federation of Labor and, believe it or not, the National Association of Manufacturers are recommending the passage of this legislation. Who could object if none of them object?

The CHAIRMAN. The question is on the committee amendment.

The committee amendment was agreed to.

Mr. PRIEST. Mr. Chairman, I move that the Committee do now rise.

The motion was agreed to.

Accordingly the Committee rose; and the Speaker having resumed the chair, Mr. THOMPSON, Chairman of the Committee of the Whole House on the State of the Union, reported that that Committee, having had under consideration the bill (H. R. 4846) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, had come to no resolution thereon.

EXTENSION OF REMARKS

Mr. CRAWFORD (at the request of Mr. HINSHAW) was granted permission to extend the remarks he made in the Committee of the Whole and include certain extraneous quotations.

Mr. HARRIS asked and was given permission to revise and extend the remarks he made in Committee of the Whole.

Mr. FORAND (at the request of Mr. HARRIS) was granted permission to extend his remarks in the Appendix of the RECORD.

Mr. TACKETT asked and was given permission to extend his remarks in the RECORD in five instances and in each to include an editorial.

Mr. MANSFIELD asked and was given permission to extend his remarks in the RECORD and include an article from the Missoulian, of Missoula, Mont.

Mr. HOLIFIELD asked and was given permission to extend his remarks in the Appendix of the RECORD.

Mr. SMITH of Virginia asked and was given permission to extend his remarks in the RECORD and include an address prepared for delivery by the late Honorable S. O. Bland.

Mr. CLEMENTE asked and was given permission to extend his remarks in the Appendix of the RECORD and include an article on conditions in Spain.

Mr. PRICE asked and was given permission to extend his remarks in the RECORD in three instances and include extraneous matter.

Mr. SABATH asked and was given permission to extend his remarks in the RECORD and include an article and an editorial.

Mr. RODINO asked and was given permission to extend his remarks in the RECORD and include a resolution.

Mr. TAURIELLO asked and was given permission to extend his remarks in the RECORD and include an article from the Buffalo Courier.

Mr. BUCHANAN asked and was given permission to extend his remarks in the RECORD and include the lobbying report for 1949, notwithstanding the fact that the estimated cost will be \$881.50.

Mr. GREEN asked and was given permission to extend his remarks in the RECORD and insert an article from the American Magazine.

Mr. THOMPSON asked and was given permission to extend his remarks in the RECORD and include an editorial.

Mr. STEED asked and was given permission to extend his remarks in the RECORD and include an editorial.

Mr. FUGATE asked and was given permission to extend his remarks in the RECORD and include extraneous material.

GENERAL LEAVE TO EXTEND REMARKS

Mr. PRIEST. Mr. Speaker, I ask unanimous consent that all Members may have five legislative days in which to extend their remarks on the bill H. R. 4846.

The SPEAKER. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

EXTENSION OF REMARKS

Mr. KEEFE asked and was given permission to revise and extend the remarks he made in Committee of the Whole.

Mr. KEATING asked and was given permission to extend his remarks in the RECORD in two instances, in one to include extraneous material.

Mr. HESELTON (at the request of Mr. KEATING) was granted permission to extend the remarks that he made in Committee of the whole and include certain statistical data.

Mr. FORD asked and was given permission to extend his remarks in the RECORD and include a speech made by the former Governor of Minnesota, Mr. Harold Stassen, at a Lincoln Day dinner.

PERMISSION TO ADDRESS THE HOUSE

Mr. FORD asked and was given permission to address the House at this point for 1 minute.

THE COAL SITUATION

Mr. FORD. Mr. Speaker, the 8-month-old coal dispute has precipitated this Nation to the brink of disaster. The situation is beyond the critical stage. Domestic coal users in western Michigan are without fuel; municipal power plants and schools have insufficient supplies and manufacturing concerns where thousands are employed now have nearly empty coal bins.

The President should have foreseen this impending disaster months ago. Instead he has played politics in refusing to make use of the national emergency provisions of the Taft-Hartley Act until it is almost too late.

The American public is fed up with Mr. Truman's shabby lack of concern over the public welfare. Today I received a letter from a union man who is fed up with the Democratic administration. The letter concludes by saying, "I have one-half ton of coal and no work."

The President's last minute and half-hearted use of the Taft-Hartley Act reminds me of a football game where the obviously better team is losing 7 to 6 in the last quarter. The better team, cocky and self-confident, has one sure-fire touchdown play which it wants to save for the final and winning play of the game. In the last second of the game the quarterback calls the winning play but it doesn't work for someone missed a crucial block. The game is lost for there is no time or chance for a second try.

Mr. Truman in the coal strike, by his eleventh-hour use of the Taft-Hartley Act, pulled the same type of a boner. The loss of a football game is relatively unimportant, but the loss of a nation, our Nation, vitally concerns us all. I wonder how long the American people

will continue to put up with purely political strategists who worry about votes rather than the public welfare.

PAN-AMERICAN DAY

Mr. MANSFIELD. Mr. Speaker, I ask unanimous consent for the immediate consideration of House Resolution 496, which I sent to the desk.

The Clerk read as follows:

Resolved, That the House of Representatives hereby designates Thursday, April 6, 1950, for the celebration of Pan-American Day, on which day remarks appropriate to such occasion may occur.

The SPEAKER. Is there objection to the request of the gentleman from Montana?

There was no objection.

The resolution was agreed to.

A motion to reconsider was laid on the table.

LAWS RELATING TO UNITED STATES MILITARY ACADEMY AND UNITED STATES NAVAL ACADEMY

Mr. LYLE, from the Committee on Rules, presented the following privileged resolution (H. Res. 497), which was referred to the House Calendar and ordered printed:

Resolved, that immediately upon the adoption of this resolution it shall be in order to move that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H. R. 7058) to amend laws relating to the United States Military Academy and the United States Naval Academy, and for other purposes. That after general debate which shall be confined to the bill and continue not to exceed 1 hour, to be equally divided and controlled by the chairman and ranking minority member of the Committee on Armed Services, the bill shall be read for amendment under the 5-minute rule. At the conclusion of the consideration of the bill for amendment, the committee shall rise and report the bill to the House with such amendments as may have been adopted and the previous question shall be considered as ordered on the bill and amendments thereto to final passage without intervening motion except one motion to recommit.

SPECIAL ORDER GRANTED

Mrs. ROGERS of Massachusetts asked and was given permission to address the House for 20 minutes on tomorrow, following the legislative business of the day and any special orders heretofore entered.

WHITE HOUSE PHOTOGRAPHERS' ASSOCIATION EXHIBIT

Mr. PRIEST. Mr. Speaker, I ask unanimous consent to proceed for 1 minute.

The SPEAKER. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

Mr. PRIEST. Mr. Speaker, I take this time to call to the attention of the Members an opportunity to witness a rather unusual collection of photographs now on exhibit at the Statler Hotel. It is the seventh annual exhibit of the White House Photographers' Association. It will remain on display through Friday of this week.

EXTENSION OF REMARKS

Mr. SCUDDER asked and was given permission to extend his remarks in the Appendix of the Record and include an editorial on rent control.

Mr. WEICHEL asked and was given permission to extend his remarks in the Appendix of the Record and include an editorial.

Mr. HARVEY asked and was given permission to extend his remarks in the Appendix of the Record and include a speech by the junior Senator from Indiana.

Mr. JAVITS asked and was given permission to revise and extend the remarks he made in the Committee of the Whole and include extraneous matter; also to extend his remarks in the Appendix of the Record in four separate instances and in each to include extraneous material.

Mr. VAN ZANDT asked and was given permission to extend his remarks in the Appendix of the Record and include a resolution passed by the Clearfield, Pa., Chamber of Commerce.

Mr. MILLER of Maryland asked and was given permission to extend his remarks in the Appendix of the Record and include an editorial.

Mr. WOLVERTON asked and was given permission to revise and extend the remarks he made in the Committee of the Whole this afternoon and include extraneous matter.

Mr. TOWE asked and was given permission to extend his remarks in the Appendix of the Record.

Mrs. HARDEN asked and was given permission to extend her remarks in the Appendix of the Record and include an editorial written by Wheeler McMillen.

Mr. LEFEVRE asked and was given permission to extend his remarks in the Appendix of the Record and include a newspaper article.

Mr. DAVENPORT asked and was given permission to extend his remarks in the Appendix of the Record and include an editorial from the Pittsburgh Post-Gazette.

Mr. JUDD asked and was given permission to extend his remarks in the Appendix of the Record in two instances and in each to include extraneous material.

Mr. McCORMACK asked and was given permission to extend his remarks in the Appendix of the Record and include a radio address recently made by Hon. Maurice J. Tobin, Secretary of Labor, on the subject of justice for Poland.

PERMISSION TO ADDRESS THE HOUSE

Mr. O'HARA of Illinois. Mr. Speaker, I ask unanimous consent to address the House for 15 minutes.

The SPEAKER. Is there objection to the request of the gentleman from Illinois?

There was no objection.

EXCISE TAX ON MOVIE TICKETS

Mr. O'HARA of Illinois. Mr. Speaker, I have received from over 25,000 of my constituents, the good men and women of the Second Congressional District of Illinois, expression of their growing impatience with the unfair tax which the

Eightieth Congress voted as a permanent and wholly unjustified burden upon their backs.

The tax upon tickets to the movie houses, where people of modest incomes find relaxation from the daily grind of work, was never intended to continue after the period of war necessity. It was adopted by a Democratic Congress strictly as a war measure, with the distinct understanding that when the war ended the tax would come off. While the war was on, our people were only too happy to pay this tax. Certainly when our soldiers were in the fox holes, no one in all America, fortunate enough to have movies to go to, complained about the hardship of paying a tax.

But the Republican Eightieth Congress voted to make this war-emergency tax a permanent peacetime tax. The Eightieth Congress did this in order to do a favor to the men and corporations in the high-income brackets. The Republican Eightieth Congress voted to make permanent the tax on the little people who attend movies so that it could get the money to pay off its debt to the big people to whom it was beholden.

The tax on tickets to the movie houses was imposed by a Democratic Congress strictly as a wartime measure. It definitely provided that the tax should end 6 months after the close of hostilities. I quote the exact words—"and ending on the first day of the first month which begins 6 months or more after the date of the termination of hostilities in the present war."

Then came the Eightieth Congress which the elections of 1946 had thrown into Republican hands. The Republican leadership of the House was under heavy obligations to certain large corporations and individuals in the highest income bracket. These corporations and rich individuals insisted upon heavy cuts in their income tax rate. So in order to give these large corporations and rich individuals what they wanted and were demanding, and at the same time to have the money with which to run the Government, H. R. 1030 was introduced by Mr. Grant, Republican from the Third district of Indiana, now represented in the Eighty-first Congress by Mr. Crook, Democrat. This bill was referred to the Republican-dominated Ways and Means Committee and on January 29, 1947, was brought to the floor of the House under what Mr. McGREGOR, an independent Republican from Ohio, called a gag-rule procedure—see page 666 of the CONGRESSIONAL RECORD of January 29, 1947. Nevertheless, the rule was adopted, H. R. 1030 was passed and eventually became Public Law 17 of the Republican Eightieth Congress.

Of the eight members from Cook County, Ill., in the Eightieth Congress now living not one Democratic Member voted for H. R. 1030, the effect of which legislation was to saddle upon men and women, and even children, who find their relaxation from toil and worry in movie attendance, the payment of taxes which by right and reason were the obligation of the big corporations and rich individuals most able to afford it.

studied at the University of Berlin and was greatly attracted to the philosophy of a man named Hegel. He turned to others such as Ludwig Feuerbach, whose philosophy was to destroy Christianity by creating in its place a full-fledged materialistic philosophy.

It is this Marx that the present-day communist leaders deify. Marx issued a paper that you all have heard of and probably very few have read. It is entitled the "Communist Manifesto"—the bible of communism. In it he said: "It may be taken for granted that bloody conflicts are coming." He and other Communist leaders have preached the gospel that in order to attain their means there must never be any limit to chicanery, duplicity, and devilry.

Another leader of their cause was known as Lenin who said: "It is necessary to use any ruse, cunning, unlawful method, evasion, concealment of the truth." Later Stalin added to this by writing: "Dictatorship means nothing more or less than the power which directly rests on violence, which is not limited by any laws or restricted by any absolute rules." These men admittedly believe in no Supreme Being, and Marx has written, "Man is the supreme being for man."

They, the same as Hitler, have told the world that they have no morals; that they consider no duties or responsibilities nor anything else, except that they will go to any lengths to attain the supremacy of communism. In a recent book by Mr. C. L. Sulzberger called *Moscow Again Talks Peace But Fails to Act*, he describes Lenin as the pope of bolshevism and he quotes Lenin as saying: "There is no alternative left. Either the Soviet Government triumphs in every advanced country in the world or else."

TO CURB A KNOWN EVIL

He also quotes Lenin as saying "America is strong, everybody is now in debt to her, she is being more and more hated, she is robbing everybody, she cannot come to terms with Europe." That comes from Lenin, whose mummified body is now in a shrine in Soviet Russia. Certainly Lenin had a real hatred for our own country. In his book Mr. Sulzberger also gave the opinion that Soviet Russia believes it is winning the cold war and that its whole purpose is to undermine western civilization and to weaken it until the time is right for them to attempt to attain their ends which would mean the end of America.

Do you recall back 15 or 20 years ago when the so-called intelligentsia would meet in fashionable homes and clubs, earning for themselves the descriptive phrase, "parlor pinks"? Most of them were educated fools. No proper description can be given in detail how they became attracted to such an ungodly philosophy. But we do know they were going about the country with an air of superiority, spilling words and phrases all of which were critical to our form of government and life. They and the Communists of today were and are rather smiled at in the same manner as Hitler was smiled at in the 1930's.

There are individuals, some of whom are leaders in our national life, who today are fomenting the same unrest within our own borders. Recent disclosure of the conviction of Mr. Hiss by a jury's verdict; the new trial of Judith Coplon for another offense after one conviction; the exposure of Dr. Klaus Fuchs, who has been active with atomic hydrogen weapons; the communistic leanings of the leaders of a great electrical union in our own city as well as the traces of disloyalty by irresponsible citizens has become quite disturbing. These people have openly criticized our form of government—the one that twice had come to the rescue of the world during the two world wars.

Disloyalty within our land must not be tolerated. Fortunately, the high percentage of our men in public life are fine and loyal—

willing to give their all for our country. We must have confidence in them. The American Legion with its tremendous influence can do much. Your duty is great. Made up of persons who have served, you cannot feel your work is complete. It never will be.

We of World War I did our best for the younger generation for whom we fought. But that generation was let in for much sadness, sorrow, and heartache. You'll do much better. For the sake of your children, your country, and for all creation, strike down the menace of communism wherever it stalks. Marx, Engels, Stalin, Molotov, and their kind promised the conquest and the revolution. These personalities wear no labels. They will be smooth and sleek, but in their fanatical minds and merciless hearts there will only be one desire—to take from you and yours the liberties of man and his dignity. In return they will clothe you with the sickle and scythe of slavery and serfdom. This country was built on and has lived on the sublime belief of trust in God. Ask His assistance to the end that a true peace may be had.

National Science Foundation

EXTENSION OF REMARKS

OF

HON. HUGH B. MITCHELL

OF WASHINGTON

IN THE HOUSE OF REPRESENTATIVES

Monday, February 27, 1950

MR. MITCHELL. Mr. Speaker, no one knows what the best possible airplane and the best possible use of atomic energy would mean to civilization.

A better source of energy and a cheaper, faster means of communication could enlarge immeasurably world understanding and enhance world prosperity.

Coming from a State which has given much to both atomic and aviation development, perhaps I am more conscious than some of the vital need for basic research in science. Only basic research made possible the plutonium plant at Richland and the XB-52, the heavy jet bomber of the future, being built by Boeing in Seattle.

In this intensified scientific age only full utilization of potential scientific brains can keep us as a nation at the head of the scientific parade.

But, as contrasted with this need, basic research in the sciences is extremely inadequate. We have been prone to take for granted the benefits of science and technology. We do not realize that every important benefit has been preceded by long years of research in varied fields of scientific endeavor.

Atomic energy, which figures so prominently in our discussions of national security and welfare, is based upon successive scientific developments stretching back through the last century. Many of the outstanding contributions to scientific research which we exploit in our laboratories and in our industrial establishments today were made by persons who lived in distant lands. The world community of science has been blasted to pieces by war. In discharging the new responsibilities thrust upon this Nation for world leadership and for domestic security and welfare it behooves us to take forthright steps to build up

our resources in basic scientific research.

Neither our universities nor many of the young people who attend them can afford to carry on in these fields without some assistance from the Federal Government. Modern research is costly and complex. Its results are not often immediately visible for immediate practical application. The reservoir of scientific talent among the Nation's youth will never be sufficiently tapped unless a scholarship program is put into effect.

The National Science Foundation bill provides for wide geographic application of contracts and scholarships. Representing the largest district in the State of Washington, which contains one of the finest State universities in the country, I believe it is important to register our congressional intent that the principle of geographic distribution be fully observed by the administrators who will be responsible for carrying out the terms of this legislation. Too often in the past there has been an undue concentration of scientific research in a few large universities.

As the Members well know, the question of including social sciences within the terms of this legislation has been the subject of considerable discussion. The present bill does not identify the social sciences as such, but it does not expressly eliminate them. I believe we should also register clearly our congressional intent that the social sciences are entitled to due consideration along with the physical sciences. To some this may be a rather touchy affair, but to me it seems evident that we have a lot to learn in ordering our affairs so that people can live wisely and enjoy the fruits of the physical sciences made possible by basic research.

From the information submitted to the committee by the Budget Bureau, as noted in the committee report, it strikes me that the sums probably required for initiating the program and for conducting it through the next 5 years are extremely modest. I believe the National Science Foundation, under the terms of this bill, will provide a valuable instrument for coordinating and integrating the research programs now carried on in rather a haphazard fashion by various Government agencies.

Mr. Speaker, the National Science Foundation bill, H. R. 4846, should be enacted without further delay. This legislation is long overdue. It has been the subject of considerable study in the Seventy-ninth, Eightieth, and Eighty-first Congresses. Hundreds of well-qualified witnesses have testified as to its urgency.

The failure to establish a National Science Foundation heretofore has reflected sharp differences as to certain of its provisions.

It is my understanding that the committee studying this legislation has attempted to resolve these differences in a way reasonably satisfactory to all parties concerned. Although I have some doubts as to the form of administrative organization proposed in H. R. 4846, I firmly believe that we can no longer afford the luxury of leisurely debate.

The important consideration is that this bill will provide a means for establishing and executing a comprehensive national policy in basic scientific research. It is significant that the Hoover Commission specifically recommended the establishment of the National Science Foundation.

This legislation grows out of the vision of the late President Roosevelt who requested Dr. Vannevar Bush to prepare a report on the subject. This report, submitted in July 1945, was appropriately termed "Science—the Endless Frontier." Science is an endless frontier for advancing human welfare and the security of the Nation. Let us pioneer further advances by passing this bill for a National Science Foundation.

Dangerous Enemies

EXTENSION OF REMARKS OF

HON. GORDON L. McDONOUGH

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Monday, February 27, 1950

Mr. McDONOUGH. Mr. Speaker, the danger of foreign agents within our land is one of the most serious threats to our national security. These traitors boring from within must be ferreted out and dealt with as criminals and enemies of the United States before they have an opportunity to further damage our security.

The arrest of Dr. Karl Fuchs revealed the shocking extent to which foreign espionage agents have succeeded in stealing information from our most secret and confidential files.

Certainly it is now evident that there can be no further delay in the enactment of needed legislation to enable the Federal Bureau of Investigation to move against these foreign agents and protect our national security effectively.

An editorial in the Hollywood Citizen News of February 4 adequately summed up the situation, and I am including that editorial here now for the serious consideration of the Members of Congress:

DANGEROUS ENEMIES

J. Edgar Hoover, FBI chief, is reported to have told Senators yesterday that Dr. Karl Fuchs, British scientist, has confessed giving Russia vital information on the assembly of the atomic bomb and some data on the super-secret hydrogen bomb.

Dr. Fuchs was arrested in England yesterday by Scotland Yard agents on information supplied by the American FBI. He was charged with giving "unknown" persons information on the atomic bomb on which he had worked in the United States as a member of a British group.

From Dr. Fuchs it is believed to have gone to Russia the information that enabled that country to surprise the United States by developing the atomic bomb a year or two ahead of schedule.

The leaks through Dr. Fuchs are presumed to have been far more dangerous to the security of this country than has been the information given by Canadian and American spies.

The distressing information should cause all loyal Americans to do a little thinking and self-questioning.

Are we going to join with Communists who are enemies of this country in opposition to the Mundt-Nixon bill to require that all Communists in this country register as agents of a foreign country?

Are we going to join with Communists in condemning the FBI for obtaining information on treasonable activities through the tapping of telephone lines?

Are we going to work for the Communists in opposing loyalty tests and in opposing the strengthening of our defenses so that we can meet the attacks of the most powerful, the most vicious, the most dishonorable, and the most treacherous dictatorship in the world's history?

Hasn't the time arrived when we should stop being tolerant of Communists who seek to destroy our liberties?

If a war arises between the Stalin dictatorship and the United States we are going to expect the FBI to have such definite information on all Communists in this country that they can quickly be put behind barbed wire before their sabotage does great damage.

Yet the FBI cannot compile accurate lists without resort to every technique of spying.

If Communists are compelled to register, only those will be put on record who openly admit their membership in the Communist Party. This will be worth while but the FBI needs to know every traitor though he does not join the Communist Party.

Surely the time has come for the Eleanor Roosevelts and the Dean Achesons to stop defending the Alger Hissers after they have been convicted of being traitors to this country.

Americans have a priceless liberty to defend. The kind of life the Russian slaves live is less desirable than death to Americans.

Only death awaits one in Russia who dares whisper that he doesn't like the way the dictators runs his country.

In this country we give everyone a fair trial. Communists on trial cost the country millions of dollars annually. Their funds to employ attorneys to take the time of our courts seem inexhaustible. None would change our conception of fair trials. But we should insist that traitors be treated as criminals.

We should insist that the work of the congressional and legislative committees on un-American activities be pushed. We should insist that all the Government support called for by the FBI be granted.

We don't want war. Let none of the Communist shouters for peace deceive us. But if to do our best to defend our liberties we have to take on war we must accept it. The chances are that if we are constantly alert to safeguard our liberties we shall be able to avoid war.

Certainly we cannot avoid war by refusing to recognize the fifth column that is among us.

Schuyler Otis Bland

SPEECH OF

HON. JOHN J. ALLEN, JR.

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Thursday, February 16, 1950

Mr. ALLEN of California. Mr. Speaker, I wish to pay my respects to the memory of the Honorable SCHUYLER OTIS BLAND, and to join with my colleagues in the House in appreciation of the great character which he brought to us.

In the nature of things his long membership on the Committee on Merchant Marine and Fisheries put him in touch with those industries, and particularly with men engaged in the shipping industry in all of its phases and in all places from which ships of our Nation sail. Over our whole Nation, on the Pacific coast as much as elsewhere, this gentleman from Virginia was appreciated and revered for his untiring efforts on behalf of our Nation and its merchant marine.

I shall always remember with deep appreciation his kindly way, his unfailing adherence to the principles in which he believed, his promptness, and the pleasure it gave one to be in his presence.

Cotton and Peanut Acreage Allotments and Marketing Quotas

SPEECH

OF

HON. EUGENE WORLEY

OF TEXAS

IN THE HOUSE OF REPRESENTATIVES

Monday, January 30, 1950

The House in Committee of the Whole House on the State of the Union had under consideration House Joint Resolution 398, relating to cotton and peanut acreage allotments and marketing quotas under the Agricultural Adjustment Act of 1938, as amended.

Mr. WORLEY. Mr. Chairman, I was distinctly surprised and very sorry to hear my good friend, the gentleman from Minnesota [Mr. AUGUST H. ANDRESEN] say that he was going to oppose this bill.

Mr. AUGUST H. ANDRESEN. Mr. Chairman, will the gentleman yield?

Mr. WORLEY. I yield to the gentleman from Minnesota.

Mr. AUGUST H. ANDRESEN. I think the gentleman was in the committee when we had the vote on it, and I think he will say that I voted against it.

Mr. WORLEY. The gentleman is correct; the gentleman voted against it, but I thought by this time he would have seen the error of his ways.

Mr. AUGUST H. ANDRESEN. And I did so with a great deal of reluctance because of my great admiration for the gentleman from Texas and his associates.

Mr. WORLEY. I appreciate those words very much.

Mr. Chairman, this is not a perfect bill by any means. There is no way in the world, and there are not enough brains in the Committee on Agriculture or in the House or in the Department of Agriculture to write a bill which will be completely equitable and fair to all sections and all growers of the cotton industry. In fact, there is no way in the world that you can write a bill that is going to be perfect so long as it involves, as it must necessarily do, an acreage reduction.

Experience has shown that the first bill passed by the Congress was not perfect, but it certainly was not because the Subcommittee on Cotton, so ably headed by the distinguished gentleman from Georgia [Mr. PACE], did not do its

The SPEAKER. Is there objection to the request of the gentleman from New York?

There was no objection.

NATIONAL SCIENCE FOUNDATION

Mr. CROSSER. Mr. Speaker, I move that the House resolve itself into the Committee of the Whole House on the State of the Union for the further consideration of the bill (H. R. 4846) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The motion was agreed to.

Accordingly the House resolved itself into the Committee of the Whole House on the State of the Union for the further consideration of the bill (H. R. 4846) to establish the National Science Foundation, with Mr. THOMPSON in the chair.

The Clerk read the title of the bill.

The CHAIRMAN. On yesterday the Committee agreed that the bill be considered as read and open for amendment at any point. Are there further amendments?

Mr. PRIEST. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. PRIEST: On page 16, line 18, strike out "1923, as amended" and insert in lieu thereof "1949."

The amendment was agreed to.

Mr. DURHAM. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. DURHAM: On page 20, line 8, after the word "of," strike out the word "atomic" and substitute the word "nuclear."

Mr. DURHAM. Mr. Chairman, I offer this amendment for the reason that at the present time it is not very clear whether or not the word "atomic" covers the new process of the hydrogen bomb. This language will, in the opinion of the members of the committee, clarify it to a certain extent.

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. DURHAM. I yield to the gentleman from Tennessee.

Mr. PRIEST. Mr. Chairman, we are very happy to accept this amendment. I am sure the gentleman from North Carolina has stated adequate reasons why it should be accepted and we are willing to accept the amendment.

The CHAIRMAN. The question is on the amendment offered by the gentleman from North Carolina [Mr. DURHAM].

The amendment was agreed to.

Mr. HARRIS. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. HARRIS: Page 20, line 24, strike out "annually"; and in line 25, strike out beginning with "such" through the period in line 1 on page 21, and insert "not to exceed \$500,000 for the fiscal year ending June 30, 1951, and not to exceed \$15,000,000 for each fiscal year thereafter."

Mr. HARRIS. Mr. Chairman, it has been my privilege for nearly 8 years out of this my 10 years' service in the Congress to be a member of the Interstate and Foreign Commerce Committee of the House. During this time a great many

bills have come from our committee affecting the welfare and security of our Nation. I do not believe, however, there has been any legislation from the committee more important and necessary to our future security than this proposal for a National Science Foundation.

I am not presently on the Public Health Subcommittee, and, therefore, did not participate in the hearings conducted by the subcommittee during this Congress. I did participate in the extensive hearings we held in the Seventy-ninth Congress. I participated in the consideration of this proposal at that time as a member of a subcommittee designated to try to perfect the most desirable bill if possible. A bill was reported but it was in the closing days of the Seventy-ninth Congress and was not considered by the House.

It was again proposed in the Eightieth Congress. We did not have subcommittees in the Eightieth Congress under the chairmanship of our distinguished colleague the gentleman from New Jersey [Mr. WOLVERTON]. All legislation was considered by the whole committee. A bill establishing a National Science Foundation was reported and passed by this Congress. I was privileged to be a member of the conference committee between the Senate and the House. We worked out the differences and passed the bill which was vetoed by the President, because of administrative policy it contained in connection with the establishment of the Board and appointment of the Director.

Consequently, Mr. Chairman, I believe that I am somewhat familiar with this proposed legislation, its purposes, design, and need.

I have been somewhat impressed with the debate yesterday and today. I have been especially interested in the fears that have been expressed in connection with this proposal. Obviously many members are justified in raising this or that question but Mr. Chairman, this is not a glorified piece of legislation. It is not setting up a foundation as some would have us believe that would absorb and take over all scientific research in every field from private or public institutions and organizations. There is nothing to the contention that this would be a super duper agency that becomes all powerful over any other activity including educational institutions where scientific research programs are carried on.

This is a program proposed out of an experience with which all of us are familiar. It is a program out of recognizing in an emergency that we in this country were sadly lacking in a most fundamental problem, inevitably affecting our future progress and security.

As has been explained, President Roosevelt, in 1941, directed Dr. Vannevar Bush, then director of the wartime Office of Scientific Research and Development, to prepare a report on the need for a post war science program. Out of that report filed July 19, 1945, Science: The Endless Frontier, came the basis for science foundation legislation which we have here today. This is not a hurried, ill-conceived piece of legislation. It is a

carefully considered proposal for now nearly 10 years.

Shortly after the submission of the report in the Seventy-ninth Congress, my colleague the gentleman from Arkansas [Mr. MILLS], introduced the first bill along with Senator MAGNUSON, based on the careful and scientific study contained in the report. Mr. MILLS appeared before our committee in that Congress and the hearings will reveal that he made a most commendable contribution, in the initial consideration of this legislation. He deserves much credit in initiating this program and I want to pay tribute to him now where tribute is justly due.

Now the real need, Mr. Chairman, for this legislation. As was said by Dr. Compton: "Rest upon the major requirement in this country with respect to science." It has a dual or two-fold purpose. First, to supplement private resources available for the support of basic research; and second, the training of scientists.

No one can deny that these two fundamental needs are absolute requirements if we are going to continue our place in world affairs and assume our leadership to which we are committed for a just and enduring peace.

I have offered this amendment placing a limitation of \$500,000 for the first year 1951 and \$15,000,000 annually thereafter. The bill as presented does not place any ceiling or limitation in its authorization which has caused many to express deep concern and I think, justifiably so.

I am just as concerned about the continuous Government spending, our Federal budget, deficit spending and high taxes, as any member of this Congress. I am convinced that it is imperative that we adjust our fiscal affairs, to not only live within the budget but that we should start applying something on the huge war debt that hangs over our heads.

But I am also concerned about the future security of our Nation. Unless we keep the pace and ahead in basic research we can have no real security. When it comes to these matters, I believe sincerely necessary to our future, I think it behooves us to reduce the appropriation in some other lesser important field and place first things first, and I consider this among the first.

The record shows there is no need for a huge sum of \$100,000,000 or more but that this program in basic research delving into the unknown, under the Foundation of 24 Board members and Executive Committee and a Director would cost approximately \$15,000,000 the first year and level off at \$25,000,000 at the end of 4 or 5 years. This is the program contemplated by the administration.

But to assure the membership of this House that this is a limited program in comparison with the \$544,000,000 or more conducted by the National Defense, Army, Navy, and other agencies, most of which is in applied science, I propose this limitation, a minimum recommended by the Bureau of the Budget for the first year and each year following, or annual appropriations.

I do this, Mr. Chairman, after consultation with other members of the committee for an additional reason than

the question of cost and increased burden. This will make it necessary for the Foundation to come back to this committee and to the Congress and give a full account of its activities and show the need for any additional funds or expression.

The purposes of the bill are stated briefly in the report which I will not again take the time to outline, but in addition to the explanation of these purposes it is my belief that the correlating of these research programs in basic science will not only give us a program imperative to our future, but will in my opinion ultimately reduce this burden and cost in the entire scientific field. We cannot and should not overlook such an important possibility.

The development of the atomic bomb cost the taxpayers of this country over \$2,000,000,000. We were in a war emergency. It was a trial and error effort. The cost, of course, was excessive. I do not know if a program such as this proposed had been under way if it would have saved any money or not. We do know that Dr. Bush and other great scientists and educators have emphasized the possibility.

We could relate many experiments carried on in basic science research, tremendously affecting the health and welfare of the individual. In our short span of time, we have seen the effect of this research work.

It has been nearly five years since the ending of the war. I am also greatly concerned at the apparent attitude and feeling that prevails. I have seen it gradually develop and it disturbs me beyond expression.

At the end of the war most everyone throughout this country was determined that we should place the greatest possible emphasis toward efforts to assure that such another world tragedy would never occur again. Read the records of this Congress in those years. Go back and review the headlines in the papers. You will be reminded of the determination of our people toward future peace and security.

We made commitments, costly commitments. We entered upon a program of peace, United Nations organization and various other costly programs to bring about a just peace and prevent Communist aggression and other totalitarian effort to rule the world.

Yes, that was at the end of the war, but Mr. Chairman, how easy it is to forget in such a short time when the matter of our security is at stake. We all said during those years that we must remain strong, militarily and otherwise, but how easy it is to become complacent, and in the hope that it cannot happen again. We cannot afford to ever again adopt the cannot-happen attitude. So let us adopt this amendment, placing this limitation and prepare the way for the development of scientists in this country and the encouragement of research efforts among all groups, private and public, that there may be no doubt as to our place in the future of a troubled and unsteady world.

This amendment places a limitation for the first fiscal year, 1951, of \$500,000.

That is the amount contained in the budget submitted for fiscal year 1951, to get the organization started and underway. This is for administrative expenses. It will take some time to get it going. Then it further provides a limitation of \$15,000,000 for each fiscal year thereafter. That takes into account the fact that the Bureau of the Budget says that in the first year of the program after it gets underway and to make an effective program, they should have \$15,000,000; that is contract authority, administrative expense, funds for scholarships and fellowships, and so forth.

In addition, it is expected that in the course of about 5 years the cost will reach a level, perhaps, of \$25,000,000 a year. In limiting the authorization in the first active year to \$15,000,000 and each year following, it will be necessary for the Foundation to come back to the committee and the Congress and give a report of its activities, its organizational work as to the progress and success of the program in the first few years, and obtain increased authorizations if it needs to expand as requested to accomplish the purposes of the act. If the Foundation can show that it should have additional authority and additional funds, it will then give the Congress an opportunity to determine, when a proper showing is made, that it should have the additional authority for such expansion.

The CHAIRMAN. The time of the gentleman from Arkansas has expired.

Mr. HARRIS. Mr. Chairman, I ask unanimous consent to proceed for three additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Arkansas?

There was no objection.

Mr. CASE of South Dakota. Mr. Chairman, will the gentleman yield?

Mr. HARRIS. I yield to the gentleman from South Dakota.

Mr. CASE of South Dakota. In connection with the limitation on the dollars, does the gentleman's amendment do anything in the limitation of the range of power of the Commission as to its supervision over other research work?

Mr. HARRIS. I think the bill itself provides that, and you will find in various sections, particularly in the policy section, the purposes of the bill, and also in subsection (h), which was discussed on the floor yesterday, at which time the gentleman from Wisconsin [Mr. KEEFE] participated rather extensively and very timely.

Mr. CASE of South Dakota. The gentleman then feels that this money will be applied to basic research?

Mr. HARRIS. To basic research, yes, except in connection with national defense matters.

Mr. VORYS. Mr. Chairman, will the gentleman yield?

Mr. HARRIS. I yield to the gentleman from Ohio.

Mr. VORYS. The gentleman did not point out, I believe, that the purpose of deliberately limiting this to \$15,000,000, although it is planned that it will go more than that in, say, the second year, is to bring it back not only to Congress, but to bring it back to this legislative

committee which brought this legislation in. I want to commend the gentleman on his amendment. We all have great respect for this great committee. We feel that this committee can review it much more amply when it is a going concern.

Mr. HARRIS. I appreciate the statement of the gentleman. I have just discussed this matter with the Bureau of the Budget. As has been explained, the first year is the organizational year in which the \$500,000 for administrative expenses would be needed. The second year it is estimated that it will probably cost about \$5,000,000 in getting the program under way, and probably the second year it will be increased to \$10,000,000, and perhaps the third year to \$15,000,000, and so on, until it reaches its level. But after it goes beyond the \$15,000,000 limitation, it will be necessary then for the foundation to come back to the Congress. Then we certainly can find out just what has been going on, what they plan to do, and just how effective the program is at that time.

Mr. HINSHAW. Mr. Chairman, will the gentleman yield?

Mr. HARRIS. I yield to the gentleman from California.

Mr. HINSHAW. I think it would be well to call the attention of the House to subsection (b) on page 21, where it states:

Appropriations made pursuant to the authority provided in subsection (a) of this section shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the acts making such appropriations.

This leaves the question of how long they shall be available pretty much up to the Appropriations Committee and the House pursuant to its action.

Mr. HARRIS. Of course; naturally, when they come back it will be the responsibility of the committee and the Congress to take a look at the entire picture again.

One reason for placing this at the \$15,000,000 level, and I thought about 5 or 7½ million level, was that they tell me that they will have some difficulty in getting the top scientists of the country to participate in the program if we make the authorization too low. I think that is a highly important matter. In other words, as one expressed it, they might take the attitude, perhaps, "Well, it is just a bugaboo program set up with nothing much to do, and we will not fool with it." I think that is highly important, because if it is to be an effective program the outstanding scientists of this country will have to participate, and I am sure they will participate.

(Mr. HARRIS asked and was given permission to revise and extend his remarks.)

Mr. HESELTON. Mr. Chairman, I offer an amendment to the amendment.

The Clerk read as follows:

Amendment offered by Mr. HESELTON to the amendment offered by Mr. HARRIS: After "exceed" strike out "\$15,000,000" and insert "\$1,000,000."

(Mr. HESELTON asked and was given permission to revise and extend his remarks.)

Mr. HESELTON. Unfortunately, the copy of the budget I had is temporarily mislaid. Let me ask the gentleman from Arkansas if we are not in accord that the budget itself says not only in figures in two places but in text that all they can spend in 1951 effectively is \$500,000?

Mr. HARRIS. That is true, and that is the reason I made it \$500,000 for the first year for administrative expenses.

Mr. HESELTON. That is right. I commend the gentleman for going that far, but I think the House is entitled to a clear opportunity here on as to how far it wants to go in the next year in the absence of any defined program and without anything like exact estimates.

There are many differences of opinion as to how far this program will go. Nobody knows. Nobody can accurately tell you what the figure will be. However, in the first annual report of the President's Scientific Research Board, on August 27, 1947, this language appears at page 31:

The Federal Government should spend about \$50,000,000 for support of basic research outside its own laboratories in 1949. From that point grants for basic research should increase rapidly until they reach an annual rate—

Not of \$10,000,000, not of \$15,000,000, but—
of at least \$250,000,000 by 1957.

Yet, at page 26 of the same report there is the following language:

As a nation, we should spend each year no less than 1 percent of our national income for research and development in the physical and biological sciences, including medicine.

It is true that the Board is talking in terms of national income for research and development which is an all-inclusive term beyond both the basic research we are now discussing and the much larger field of even applied research. That is one enormous difficulty in considering this problem because we find fixed into Government terminology and in budget presentations the general term of research and development.

Then consider another paragraph in that report:

We will have the trained manpower to support a program of this magnitude by 1957. Assuming in that year a national income of over \$200,000,000,000, our national research budget should then be more than \$2,000,000,000.

Again, this is a suggested figure of \$2,000,000,000 over all, and although it defines it as our national research budget, as I read the paragraph it is referring to basic and applied research and development in the Federal Government, in other public bodies, in industry, and in our universities and colleges.

Nevertheless, I call your attention to the specific language of still a third paragraph on page 27. After discussing the sharp decline in endowment income, the limiting of sources of new endowment

funds by taxation, and other factors, the Board states:

In view of these considerations, we should anticipate Federal expenditures in support of research and development of more than \$1,000,000,000 a year by 1957.

Then I am confronted, and I think all of us are confronted, with a very practical dilemma. Yesterday I pointed out that the Budget, at page 1118, lists expenditures for research and development as actually \$940,000,000 in 1949, \$964,000,000 estimated in 1950, and \$953,000,000 estimated in 1951.

The gentleman from South Dakota [Mr. CASE] has shown me another tabulation which I understand to be an official one indicating that already the Federal budget requests are far in excess of \$1,000,000,000 this year and steadily mounting.

It occurs to me that this is primarily because of the wide scope of what is called research in the Federal Government and perhaps because it appears that very substantial expenditures for construction of facilities are not classified as strictly research and development. I pointed out yesterday that there is a request for construction at Langley Field, Va., which is, I think, carried in the Independent Offices Appropriation Act of 1949 with an item of \$1,000,000. I do not know whether this is classified strictly as research or not. I pointed out that the medical-research facilities at Bethesda are being expended, that the principal building is now in its second year of construction with a clinical center and a research laboratory to be equipped with 500 research beds for clinical research in cancer, heart, metabolic, and infectious diseases.

Certainly this is an excellent program of which I am sure we all approve but let me point out that the budget calls for an appropriation of \$15,125,000 which is in addition to the \$18,100,000 appropriated to date. Here again I do not know whether that is classified as within the research program or, rather, treated as a construction item.

My whole point is that I do not think that, with all due respect to the many people who have been interested in this matter and are interested in this matter, anyone is in a position to state with exactness, whether we will require one, two, three, five, or fifteen million dollars, as suggested by the gentleman from Arkansas [Mr. HARRIS] and others; \$25,000,000, as others so persuasively suggest as a minimum; \$27,500,000, as still others suggest, or even \$250,000,000, for basic research as far off as 1957. In view of all these contradictions, and for that reason, I am suggesting \$1,000,000 as a ceiling in 1952. Concededly, that is an arbitrary limitation. If someone wishes to place it at \$5,000,000 or \$7,500,000 and can produce further evidence to support that as a figure, I should be inclined to support that amendment. But I do want to leave the Record entirely clear that, in my opinion, we should deal with the facts as they are contained in the recommendations of the President in

his budget message, should have presented to the Interstate and Foreign Commerce Committee a continuing report of the development of the National Science Foundation program with accurate estimates as to what may be required in fiscal 1951, so that we will be prepared to act intelligently on any further authorization in 1952 and prepared during the ensuing 11 months to state with some authority to the House what we believe to be a proper ceiling.

Let me conclude this phase of my explanation of the reasons for this amendment with one paragraph from the Board's report at page 25:

What is here proposed, therefore, is not a maximum, but a minimum annual national research and development budget for the future—a budget below which we cannot afford to fall. It is in the nature of a recommended floor for expenditures, rather than an optimum ceiling.

We have been talking now about a ceiling. Too frequently we have found that any ceiling becomes a floor. I commend the Board for its frankness in including this paragraph in its report and I am entirely sincere in making that statement. I have repeatedly commended this Board for the work it has done and for these excellent reports. I recognize the limitations under which it had to work, both as to time, as to funds and personnel available, and as to the extreme complexity of the subject matter with which it was dealing. But, as my chief witness on this point, I believe that the Board has proven beyond any reasonable doubt that no wise, sound figure can be suggested by any one for the fiscal year 1952. I wish the gentleman from Arkansas [Mr. HARRIS] had taken the clear limitation recommended by the budget for fiscal 1951 and stopped there. Since he did not do so, I want the record clear as to my reasons for questioning the wisdom of placing any limitation on fiscal 1952 until we have sufficient knowledge of the program and of its requirements so that we can approve a reasonable authorization. Surely, if this bill passes and becomes law, all those interested in creating the Foundation and making it operate successfully are going to believe that the majority of this and future Congresses will recognize the necessity of supporting a soundly conceived and well administered program. Personally, I believe we can count on our scientists, engineers and other technicians to work effectively to develop such a program and to implement it. I think of them first as loyal Americans willing and anxious to work with us in the interest of the security, the economic well-being and the health of the United States. The overwhelming majority of them, with rare exceptions indeed, proved that conclusively in the crucial days in 1940-45. I certainly credit them with as much interest in and devotion to this country's security now as then and I would be amazed if as many as 6 of them declined a request to assist in creating a sound structure and program for this Foundation. We all know that public service

is something this Nation has never had to buy. Why should we fear that our history would reverse itself between now and the early months of 1952?

I think the Members are entitled to all the information the committee can develop.

I have the highest regard for my friend from Arkansas [Mr. HARRIS] and all the members of this committee. I know they are sincere and I know they are worried, and I am worried and that is one fundamental reason for my support of this bill.

I said yesterday that in the Defense Department in research alone they have been able to cut back in 2 years \$82,000,000.

I urge upon you to realize there is reason to believe if we put this law into effect and set up an effective agency, instead of increasing the cost of government, to the extent of \$105,000,000 as outlined in the budget requests of agencies other than the national defense for 1950 and 1951, we can and we should save a substantial portion. Is that wishful thinking? I do not think so. If the Defense Department has attacked this thing realistically and has applied standards and has created a balanced program, as it surely has, then through the medium of the National Science Foundation, if we make this a law, we can hope not only to save all which involved even in this proposed ceiling for 1952, but many more millions of dollars. Have I any ground for saying that? I think so. This morning I talked with an executive officer in the National Defense Department. I know this is not considered classified information. I was told that out of the military budget they can turn over a minimum of \$15,000,000 or a maximum of \$20,000,000 in the current funds to this newly created science foundation. I concede that that will not cover scholarships. But let us be realistic about it. It will set this program going. This is the Defense Department only. What of the others? And I remain unconvinced that we can hope to start the fellowship and scholarship program going until 1952 at the earliest.

This is not the measure which has passed the other body. I personally believe it is a much better and more refined version. It has to go to conference. We can get more information and our conference committee can iron this out. But why should we project ourselves clear into 1952 by saying, "You have permission to go up to \$15,000,000." Remember that is a minimum and I predict it will be so construed irrespective of what any of us say here during this debate.

I say the situation is one where we should, as the gentleman from New York has so ably suggested, stop, look, and listen. I do not want to wreck this program and I do not believe I am doing so. This is not intended as and it is not a crippling amendment. It should help to gain support for the bill and the Foundation. It is translating the President's budget message to a dollar, as I read that message. If the President and the Budget Bureau are right, I am right. If they are wrong, I shall be open-minded as to any other figure. But no one yet

has offered reasons for another figure. I am concerned about some of the figures which I gave to the committee yesterday about what they are doing in Soviet Russia. They are not my figures. They come from the Department of National Defense. I call your attention to the fact that these are figures from behind the iron curtain which are believed to be accurate. The budget of the Soviet Union for 1947 is reported to provide \$1,200,000,000 for this purpose as compared with outlays of \$900,000,000 in 1946. What were we doing in 1949? We were spending \$940,000,000.

Then there is something more.

I am told our Government does not have any figure it can isolate. But through 1948 and 1949, the total military expenditures of Soviet Russia appear to have increased by about 20 percent. But listen to this. At the same time expenditures for scientific research and development appear to have increased 80 percent. Those are increases over 1947.

The CHAIRMAN. The time of the gentleman from Massachusetts has expired.

Mr. HESELTON. Mr. Chairman, I ask unanimous consent to proceed for two additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Massachusetts?

There was no objection.

Mr. HESELTON. Mr. Chairman, I appreciate the consideration of my colleagues. These final remarks move me to a deep conviction that I must support this bill. I shall support it, even though this amendment is defeated. I want the matter to go back to the committee with a new program that we can analyze. It will under the amendment offered by the gentleman from Arkansas [Mr. HARRIS]. It will also under my amendment. We are reaching out. We do not have any standard, any guide, any yardstick, except what we have here. The President's board frankly admits that this report constitutes only a partial analysis. We are trying to organize an effective agency without knowing what any foundation or other agency is going to do.

Now, what is our situation with regard to scientists? The Department of National Defense advised me, according to their latest figures they have for Russia, those for 1949, and this includes, apparently, all higher education, they have a pool of 450,000 specialists and 218,000 engineers, and also 232,000 teachers, doctors, and health officers. I understand that some of the latter group probably are scientists. That ought to give us something to pause and think about.

How did we stand here? I pointed out yesterday that because of the war we went back from 2,034 graduate Ph. D.'s in 1941 to 833 in 1945. We have come back slowly; 948 in 1946, 1,464 in 1947, 1,947 in 1948, and 2,320 last year. It is expected that this figure will stay about there, because our GI educational program is diminishing. That is, unless we have this bill as a law.

Turning to those receiving engineering degrees: In 1941, 17,800; in 1949, 45,000; in 1950, an estimate of 50,000. That

is encouraging. But consider the estimates for 1951 and 1952. A drop of 13,000 in 1951 to 37,000. A drop of another 9,000 in 1952 to 28,000. Almost half.

How about bachelors of science: 1949, 28,000; 1950, 42,000; 1951, 44,000. After that, what? Another trend downward. I repeat, unless we have this bill as a law and an effective foundation functioning.

I do not have the information as to what they did in Russia, although I am searching for all I can obtain that is not classified security data. But Soviet Russia went into a 5-year program in 1947, and this is 1949. Under that program the Defense Department said Russia was reported to be producing 140,000 engineers and scientists each year. We are producing 80,320. That is 140,000 against 80,320. If they succeed in Russia, that will be 700,000 by 1952. Unless we act in this body we will have trained a little over half that number—about 400,000.

Are we willing to take the awful responsibility of disregarding the measured recommendation of the National Defense Department in its report filed December 30 last:

They—

The Army, Navy, Marine Corps, and Air Force—
are also supporting the proposed legislation for a National Science Foundation.

Does anyone dare suggest that General Bradley, General Collins, Admiral Sherman, and General Vandenberg would approve such a flat recommendation without knowing the text of the bill which passed the other body in May 1948 by a vote of 79 to 8, or without knowledge of the contents of this bill as reported by our committee more than 6 months before that report of the National Defense Department? Are we willing to discard the intelligent testimony in support of this bill since Dr. Vannevar Bush undertook the difficult task in November 1944 to prepare a report on the postwar science program? Does not his brilliant report of July 1945, Science: The Endless Frontier, count as any evidence for us? Are we to brush aside the testimony of Dr. Bronk, president of John Hopkins University, and Chairman of the National Research Council, when he warns us:

I need not remind you that certain potential enemies of this country are fully aware of the power of science in their efforts for military strength and military power.

And adds:

Because of that consideration alone I take it that a National Science Foundation is of the utmost importance to the Nation and to the security of the Nation.

I beg that you read the short 3½-page statement by Dr. Karl T. Compton at page 112 of the hearings, when he testified as the representative of the National Military Establishment, as Chairman of the Research and Development Board, and as president of M. I. T. Read the searching questions of my colleagues of the subcommittee and his revealing answers. Recall his magnificent record in the war before you close your mind to his advice.

Then please read the six-paragraph letter on page 142 of the hearings dated March 30, 1949, and signed by the chairman of the committee on science legislation of the Engineers Joint Council, in company with scientists from California Institute of Technology, Johns Hopkins University, Carnegie Institute of Technology, University of Illinois, New York University College of Medicine, University of Minnesota, University of Colorado, and by Mr. Robert E. Wilson, chairman of the board, Standard Oil Co. of Indiana.

Then look at the list I inserted in my remarks on February 27 at pages 2445 and 2446 of scientific organizations, educational and research institutions, national organizations, Government officials, and outstanding scientists and Americans stated to be in support of this proposal. Among the individuals, I call your attention to the late Gen. Hap Arnold; President Conant, of Harvard; President Doherty, of Carnegie Institute of Technology; Dean Hammond, School of Engineering, the Pennsylvania State College; Dean Saville, of the College of Engineering, New York University; Dr. Oppenheimer, Director of the Manhattan project; Dr. Urey, University of Chicago; Dr. Smyth, Princeton University; of President Day, Cornell University; of Dean Blake, Yale School of Medicine; of Dr. Sinnott, Sheffield Scientific School, Yale University; Dr. Stanley, Rockefeller Institute for Medical Research; President Carmichael, Tufts College; of President Stearns, University of Colorado; of Chancellor Gustavson, University of Nebraska; and of Rev. J. C. S. O'Donnell, president of Notre Dame University.

Finally, I hope you will just look at the brief quotation from the unanimous report and recommendation of the 12 commissioners of the so-called Hoover Commission filed with Congress on March 25, 1949, which I placed in the RECORD for February 27 at pages 2448 and 2449.

"Does all this overwhelming evidence count as nothing in our serious consideration of this problem? We have had two full sessions and undoubtedly will not reach a vote tonight. I hope that what the members of the Interstate and Foreign Commerce Committee have been trying to do in expressing their support of and their reasons for supporting this legislation will enable each of you to understand this complex and intricate problem. I am confident that the bill will pass by a substantial majority. If my efforts have contributed anything toward a decision on the part of any of you which will be satisfactory to you in years to come, I shall be more than repaid. I hope that no one of us will approach the vote, perhaps on next Thursday, without a more complete understanding of the problem and of the solution recommended, so that our votes can reflect our mature and considered judgment as to what I believe to be one of the most challenging and, even, frightening situations which has ever confronted our Nation. In terms of its security and in terms of its future economic welfare and development, in terms of the continued improved health of its people, I sincerely hope that all those of you who have any doubts at this mo-

ment can resolve them in favor of this legislation when we discuss it again either tomorrow or on Thursday.

Under permission I received in the House, I now include three significant tables for your consideration. I call your particular attention to the marked difference between expenditures in 1947 in the War and Navy Departments for basic research and for applied research and development. I am informed that there is not a very substantial variation in the situation as of this time.

TABLE II.—The national research and development budget 1947* (excluding atomic energy)

Agency	Total	Expenditures in 1947	
		Basic research	Applied research and development
Total.....	\$1,160	\$110	\$1,050
Federal Government.....	625	55	570
War and Navy Departments.....	500	35	465
Other departments.....	125	20	105
Industry.....	450	10	440
University.....	45	35	10
Other.....	40	10	30

Distribution of Federal funds

	Total	War and Navy	Other
Total.....	\$625	\$500	\$125
Government laboratories.....	200	100	100
Industrial and university laboratories on contracts.....	425	400	25

*See appendix II for sources of estimates.

TABLE III.—National research and development budget for 1957

Type of activity	Amount	Proportion of total budget
Basic research.....	\$440	20
Health and medical research.....	300	14
Nonmilitary development.....	1,000	44
Military development.....	500	22

Federal research expenditures, by agency, fiscal year 1947

Agency	Expenditures	
	Amount	Percent of total
Grand total.....	\$623,930	100.0
Navy Department.....	262,000	42.0
War Department.....	237,000	38.0
Agriculture Department.....	31,328	5.0
Interior Department.....	30,358	4.9
National Advisory Committee for Aeronautics.....	27,000	4.3
Federal Security Agency.....	13,236	2.1
Commerce Department.....	10,494	1.7
Federal Loan Agency (RFC).....	4,699	.8
Tennessee Valley Authority.....	3,654	.6
Veterans' Administration.....	2,523	.4
Federal Works Agency.....	822	.1
Smithsonian Institution.....	309	(1)
Treasury Department.....	220	(1)
Federal Communications Commission.....	200	(1)
Maritime Commission.....	87	(1)

¹ Less than 0.05 percent.

I also think it would be useful to my colleagues to have before them the survey of research and development units of the Federal Government and I call your attention to the fact that this list is suggestive, not inclusive. Consider the fact that it is reported that approximately 90 percent of the national military defense work in this field is let by contract rather than done in our Federal laboratories and I am sure you will understand why the committee wanted to provide flexibility so far as our national defense over-all program is concerned:

APPENDIX I

RESEARCH AND DEVELOPMENT UNITS OF THE UNITED STATES GOVERNMENT¹

AGRICULTURE DEPARTMENT

Office of Experiment Stations: Stations in United States, Alaska, Hawaii, and Puerto Rico.

Bureau of Animal Industry.

Bureau of Dairy Industry.

Bureau of Plant Industry, Soils, and Agricultural Engineering.

Bureau of Entomology and Plant Quarantine.

Bureau of Human Nutrition and Home Economics.

Bureau of Agricultural and Industrial Chemistry: Northern Laboratory, Southern Laboratory, Eastern Laboratory, Western Laboratory.

Agricultural Research Center (Beltsville). The Forest Service: Forest Products Laboratory.

Soil Conservation Service.

Production and Marketing Administration.

Farm Credit Administration.

COMMERCE DEPARTMENT

National Bureau of Standards.

Civil Aeronautics Administration.

Weather Bureau.

Coastal and Geodetic Survey.

Office of Technical Services.

DEPARTMENT OF THE INTERIOR

Bureau of Mines.

Bureau of Reclamation.

Fish and Wildlife Service.

Geological Survey.

National Park Service.

FEDERAL SECURITY AGENCY

United States Public Health Service: National Institute of Health.

St. Elizabeths Hospital.

Food and Drug Administration.

TENNESSEE VALLEY AUTHORITY

Operating Divisions.

NAVY DEPARTMENT

Office of Naval Research: Planning Division, Naval Research Laboratory, Special Devices Center, Underwater Sound Reference Laboratory.

Office of Chief, Naval Operations: Naval Observatory, Hydrographic Office, Operational Development and Evaluation.

Bureau of Ships: Electronics Division, Research and Standards Section, David W. Taylor Model Basin, Navy Electronics Laboratory, Naval Engineering Experiment Station, Navy Underwater Sound Laboratory, Navy Code and Signal Laboratory, Naval Boiler and Turbine Laboratory, Material Laboratory, Industrial Test Laboratory, Navy Mine Countermeasure Station.

Bureau of Aeronautics: Engineering Division, Humm Laboratory, Naval Aeronautics Laboratory, Naval Air Experimental Station, Naval Air Test Center, Naval Air Missile Test Center, Naval Air Material Center.

¹ The difficulties of inclusion and exclusion for any list of this type are considerable. The list is suggestive, not definitive.

Bureau of Yards and Docks: Planning and Design Department.

Bureau of Ordnance: Research and Development Division, Naval Ordnance Laboratory, Naval Ordnance Development Unit, Naval Ordnance Test Station, Naval Aviation Ordnance Test Station, Point Mugu Special Weapons Center.

Bureau of Medicine and Surgery: Research Division, Medical Field Research Laboratory, Medical Research Department, Naval Institute of Tropical Medicine, Naval Medical Research Institute.

UNITED STATES ARMY TECHNICAL SERVICES

Chemical Corps: Edgewood Arsenal, Camp Detrick, Dugway Proving Ground, San Jose project.

Medical Department: Army Medical Center, Army Industrial Hygiene Laboratory, Army Institute of Pathology, Medical Department Field Research Laboratory, Medical Nutrition Laboratory, Veterinary Research Laboratory.

Ordnance Department: Aberdeen Proving Ground, Detroit Tank Arsenal, Frankford Arsenal, Picatinny Arsenal, Research and Development, Fort Bliss Suboffice, Research and Development, Pasadena Suboffice, Rock Island Arsenal, Springfield Armory, Submarine Mine Depot, Watertown Arsenal, Watervliet Arsenal, White Sands Proving Grounds.

Quartermaster Corps: Climatic Research Laboratory, Jeffersonville Depot, Philadelphia Depot, Quartermaster Food and Container Institute for Armed Forces.

Signal Corps: Coles Signal Laboratory, Evans Signal Laboratory, Squier Signal Laboratory, Army Electric Standards Agency.

Corps of Engineers: A. P. Hill Military Reservation, Wright Field, Yuma Test Branch, Fort Churchill, Fort Story, Fort Belvoir.

Transportation Corps.

NATIONAL ADVISORY COMMITTEE ON AERONAUTICS

Langley Memorial Aeronautical Laboratory.

Ames Aeronautical Laboratory.

Flight Propulsion Research Laboratory.

SMITHSONIAN INSTITUTION

Research Divisions.

ATOMIC ENERGY COMMISSION

Research Division.

FEDERAL WORKS AGENCY

Public Roads Administration.

FEDERAL COMMUNICATIONS COMMISSION
Engineering Department.

The CHAIRMAN. The time of the gentleman from Massachusetts has again expired.

Mr. PRIEST. Mr. Chairman, I rise in opposition to the amendment to the amendment.

I have not checked with all members of the subcommittee. I have checked with the members on this side, and as chairman of the subcommittee I am willing to accept the Harris amendment limiting the appropriation to \$15,000,000. I think it is well that we limit the appropriation for the reasons that the gentleman from Arkansas stated. Then the Foundation may come back before the legislative committee for additional authorizations 3 or 4 years from now, if necessary. I do feel it would be a great mistake to accept the amendment offered by my good friend, the gentleman from Massachusetts [Mr. HESELTON]. I feel certain that he is very sincere in offering the amendment, because he is sincere in all the work that he does on the committee. I believe the gentleman

from Arkansas [Mr. HARRIS] stated one of the very impelling reasons, as I see it, why we should not accept the amendment offered by the gentleman from Massachusetts, limiting this appropriation to \$1,000,000. If this Foundation is to do the job that I hope, and I believe the gentleman from Massachusetts [Mr. HESELTON] hopes it will do, it must attract men of high caliber in the realms of scientific education and research throughout this country. We expect that it will do so; that they will be willing to give their time to the Foundation and to give their time to the executive committee of that Foundation toward developing the program. I feel very strongly, and I have heard some comments in that respect in the last few days, that if we limit this appropriation initially to \$1,000,000, there will not be enough confidence in the continuation of the program to attract the type of men that we want.

We passed a bill providing for a National Science Foundation in the Eightieth Congress, without any limitation whatsoever on the appropriation. It was a wide-open authorization, such as originally was contained in this bill, that such funds as may be necessary for carrying out the program of the foundation are hereby authorized to be appropriated.

Mr. HESELTON. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. HESELTON. I thank the gentleman for his kind remarks about my hoping that this will be enacted. I said I would vote for it, whatever the outcome of this amendment. But is it not true that in other sections of the bill we provide for transfers, which, as I indicated could go to the extent of \$15,000,000 in the national defense alone, so that the program could actually get under way? Would it not be better for us to take this 1 year at a time and try to get a definite program before our committee and before the House which we understand and of which we approve, before we bind ourselves to the \$15,000,000 open-end authorization?

Mr. BIEMILLER. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Wisconsin.

Mr. BIEMILLER. May I observe that if we are to rely on section 8, as the gentleman from Massachusetts [Mr. HESELTON] is suggesting, that funds may only be transferred for the specific purpose for which they have previously been appropriated. We have testimony before us on the part of the military establishment, in the committee hearings, that they do not have funds for the basic research, for which the National Science Foundation is intended.

Mr. PRIEST. I will yield again, and then I would like to have just 1 minute.

Mr. HESELTON. That is true, but I do not believe my friend, the gentleman from Wisconsin [Mr. BIEMILLER] or my friend, the gentleman from Tennessee [Mr. PRIEST], or anybody really believes that we are going to be able to get the fellowship and scholarship program under way next September. The earliest we can do it, in my opinion, will be the

following September, when we will need more money. But no one knows how much.

Mr. McCORMACK. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. McCORMACK. I am sorry the gentleman from Tennessee [Mr. PRIEST] has agreed to accept the amendment offered by the gentleman from Arkansas [Mr. HARRIS], because I think a limitation of \$15,000,000 is too low. Yesterday the gentleman said we would level off at about \$25,000,000; but in view of the fact that the subcommittee has agreed to accept it, I naturally will go along. However, I do hope that the amendment offered by the gentleman from Massachusetts [Mr. HESELTON] and there is no hostility about his amendment, because he has evidenced that from the floor—I hope that will not be agreed to, because I think it would have a very crippling effect. I say that descriptively and advisedly, because he has no such intention, I know, although it would have a very crippling effect upon the operation of the National Science Foundation. Reluctantly I will go along with the amendment offered by the gentleman from Arkansas [Mr. HARRIS] in view of its acceptance by the Chairman of the Subcommittee.

Mr. HESELTON. Will the gentleman yield briefly that I may make a reply to my good friend, the majority leader?

Mr. PRIEST. I yield briefly to the gentleman to answer.

Mr. HESELTON. Apparently, the majority leader does not recall that the budget carries \$1,000,000 for 1951.

Mr. McCORMACK. I may say to my friend from Massachusetts that the gentleman from Massachusetts [Mr. McCORMACK] is aware of it. My recollection is that it was \$500,000 for 1950.

Mr. HESELTON. And for 1951 it was \$1,000,000.

Mr. McCORMACK. I am aware of the situation, but we are approaching this from the wrong angle. The effect of my friend's amendment, if adopted, would be to have the National Science Foundation established for 2 years, the first year at \$500,000 and the next at \$1,000,000; then they would have to come back for additional legislation on the part of the Congress. I believe that is a situation that should not exist. I recognize the argument that there should be a limitation, but in my opinion if a limitation is put on it should be \$25,000,000. I will, of course, go along with the \$15,000,000, but the further restriction is too much.

Mr. PRIEST. Mr. Chairman, I hope very much that the amendment offered by my friend from Massachusetts to the Harris amendment will be defeated.

The CHAIRMAN. The time of the gentleman from Tennessee has expired.

Mr. McCORMACK. Mr. Chairman, I ask unanimous consent that the gentleman's time be extended for three additional minutes because of the many interruptions that have taken place.

The CHAIRMAN. Is there objection to the request of the gentleman from Massachusetts?

There was no objection.

The CHAIRMAN. The gentleman from Tennessee is recognized for three additional minutes.

Mr. GROSS. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. GROSS. We have saved \$10,000,000 at one stroke by waiting one 24-hour period. I rise to ask the gentleman if it would not be well to adjourn now to see if we could not save another \$10,000,000 at another stroke.

Mr. PRIEST. The gentleman refers to the fact, of course, that on yesterday I stated that the ultimate cost was estimated to be about \$25,000,000. For the time being an amendment has been accepted by the chairman of the subcommittee to place a limitation of \$15,000,000. The bill will have to come up for consideration again within 3 or 4 years, for review by the committee which reports this legislation, review of what the Foundation has done and proposes to do, for the committee to give it a look and decide whether or not we should raise that ceiling, or lower it, or just what should be done.

I yield to the author of the pending amendment.

Mr. HARRIS. Is it not a fact that in the course of the debate yesterday on this proposed legislation, one of the greatest fears expressed was that there would be no limitation whatsoever? We now propose to place a limitation in the bill for the simple reason that it is expected that the Foundation will have to come back to Congress and give an accounting of their actions.

Mr. PRIEST. The gentleman is correct. May I say that as chairman of the subcommittee I accept this action because I believe there is a very strong feeling on the part of the Members that there should be some sort of limitation. I took a strong position yesterday on the floor in support of the \$25,000,000 and would continue it except that in the interest of harmony and in the interest of agreeing with my good friend from Arkansas and others who believe very strongly that some reasonable limitation should be in the bill, I am willing to accept the Harris amendment; but I do hope we will not accept the amendment offered by the gentleman from Massachusetts to the Harris amendment.

Mr. RANKIN. Mr. Chairman, I offer a preferential motion.

The Clerk read as follows:

Mr. RANKIN moves that the Committee do now rise and report the bill back to the House with the recommendation that the enacting clause be stricken out.

Mr. RANKIN. Mr. Chairman, this is not only one of the most useless but one of the most dangerous propositions, in my opinion, of its kind that has ever come before the Congress.

Instead of creating more foundations, we need to get rid of some foundations that are now being used for propaganda purposes, that are now being used to undermine and destroy our Government, as well as to undermine and destroy the American way of life.

I know one of the men who has been one of the chief forces behind this thing, Harlow Shapley of Harvard University.

I know he belongs to a half dozen or a dozen Communist-front organizations. We had him before the Committee on Un-American Activities and brought that information out.

I understand he and his group expect to pick the personnel of this foundation if this bill passes.

We know another thing, that a large number of the colleges of America today have on their teaching staffs men drawing pay from other sources, and many of them are spreading communistic propaganda all the way from Massachusetts probably to Mississippi and from Texas to Maine.

Mr. Chairman, this is not the time to set up an organization of this kind. America has made the greatest progress any nation ever saw. How has that been done? By that independent freedom, if you please, that we now enjoy. Suppose you had this aggregation 80 years ago, Thomas A. Edison, the greatest inventive genius of the ages, could not have got an audience with them.

Suppose you had this crowd in command 150 years ago, do you think Eli Whitney, the man who invented the cotton gin and revolutionized the industry of America, could have got an audience? No. You are taking out of the hands of many of our colleges, out of the hands of our military, out of the hands of our defense forces, if you please, the very powers that they need and are turning them over to a gang of professors, many of whom you will find are affiliated with Communist-front organizations.

I cannot support this measure under any circumstances, and for that reason I have asked for this time in order that I might give the reasons why I think this measure is dangerous and should be defeated.

Mr. CHURCH. Mr. Chairman, will the gentleman yield?

Mr. RANKIN. I yield to the gentleman from Illinois.

Mr. CHURCH. This can cost, according to their own admission, \$50,000,000 or more, when it gets through the other body and therefore that much more in taxes. Is not the gentleman familiar with the fact that industry after industry, small industry and large industry, throughout the United States is begging for less taxes so that they might be able to do their own research work?

Mr. RANKIN. Why, certainly. Here you are just burdening the American people with taxes to set up a dangerous organization that if the American people knew what it is, and what is behind it, would be against it almost to a man.

Mr. FULTON. Mr. Chairman, will the gentleman yield?

Mr. RANKIN. I yield to the gentleman from Pennsylvania.

Mr. FULTON. The gentleman interests me with his comment about Dr. Harlow Shapley. Did the gentleman ask the chairman of the committee just what part he might have had in this matter?

Mr. RANKIN. I was already familiar with that, sir, or I would not have brought his name into the discussion. If the gentleman will look at the record, he will find Dr. Shapley is one of the chief supporters behind this proposition, and if the gentleman will go to the records of

the Un-American Activities Committee, he will find that Dr. Shapley is a member of some of the most dangerous Communist-front organizations in America.

The measure should be defeated.

The CHAIRMAN. The time of the gentleman from Mississippi has expired.

(Mr. RANKIN asked and was given permission to revise and extend his remarks.)

Mr. PRIEST. Mr. Chairman, I rise in opposition to the preferential motion.

Mr. Chairman, I would like once and for all time to make a very brief statement as to the background of this legislation. My friend from Mississippi [Mr. RANKIN] mentioned Harlow Shapley, of Harvard University. All I know about the man he mentioned is that he is a member of that faculty, a scientist.

The first connection I had with this legislation dates back to the year 1945 shortly after the end of the war, when Dr. Vannevar Bush called me, the distinguished gentleman from Arkansas [Mr. MILLS], Senator MAGNUSON, the gentleman from Kentucky, Mr. CHAPMAN, now a Member of the other body, and several others out to his apartment and asked us to go with him into the possibilities of the establishment of a National Science Foundation.

I never heard of Dr. Shapley and any connection he had with this bill until a few months ago when the claim was made that he was one of the instigators. I might say this, that in all the hearings before the committee—and I have here the hearings held during the last session of the Congress, and the gentleman from Wisconsin [Mr. BIEMILLER] has a volume of hearings on a previous bill in another session of the Congress, the professor from Harvard has never appeared before the committee; he has never signed a communication to the committee expressing any interest whatsoever in this legislation. Now, I state that as a matter of record. As an American citizen he had a right to appear if he wanted to, of course, but he never asked to appear.

Mr. HARRIS. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Arkansas.

Mr. HARRIS. Is it not a fact that this legislation originated with President Roosevelt asking Dr. Vannevar Bush in 1941 to make a thorough and complete study and to report to him and to the Congress as to the need for such legislation, and that a study was under way for about 4 years before the submission of that report in 1945 from which this legislation came?

Mr. PRIEST. That is quite correct. And, I might say again to my colleague from Arkansas that his own colleague, the gentleman from Arkansas [Mr. MILLS] introduced the first National Science Foundation bill that was ever introduced in the House of Representatives, and I do not believe that the gentleman from Arkansas, Mr. WILBUR MILLS, knew anything about any pernicious influences at the time.

Mr. HARRIS. And based on the report that had several years of study, which was submitted.

Mr. PRIEST. Exactly.

Mr. HESELTON. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Massachusetts.

Mr. HESELTON. I just want to call the attention of the committee to the fact that the National Defense Establishment on December 30, 1949, had this to say in its report: "They," meaning the military department "are also supporting the proposed legislation for a National Science Foundation."

We reported this bill 6 months before, on June 14, 1949. Coming from Massachusetts I want to say that there is no shred of evidence—and I do not know this man, Shapley—there is not a shred of evidence that Karl Compton, ex-president of MIT, and a sponsor and a witness before our committee, or President Conant of Harvard University, the director of the Sheffield Scientific School at Yale University, and literally scores of others, prominent Americans, including Gen. "Hap" Arnold, of the Air Force, are inclined to support any Communist-inspired legislation in this House.

Mr. PRIEST. Or Mr. Forrestal, or the Disabled American Veterans. I could go on and name one after another, that I believe would be convincing.

Mr. RANKIN. Mr. Chairman, if the gentleman will yield, the armed forces thought that this would be set up inside of the armed forces.

Mr. COX. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Georgia.

Mr. COX. Mr. Chairman, I have had some misgivings about this bill, but I think it due the gentleman now having the floor that it be said of him that he conducted a very fair hearing, a very thorough hearing, and filed a magnificent report. Mr. Chairman, I am voting for this bill, gambling upon the proposition of Dr. Vannevar Bush being named Director.

Mr. PRIEST. I thank my good friend from Georgia. And, I might add, while on the floor, and make it a matter of record, that there is not a person in the country that I would sooner see head of this Foundation than Dr. Vannevar Bush. I join the gentleman in wishing that he might be named head of the Foundation.

Mr. BIEMILLER. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Wisconsin.

Mr. BIEMILLER. I think we also ought to have the Record show that among the corporations which appeared before the committee backing the National Science Foundation were representatives of such organizations as Standard Oil Co. of Indiana, the Sperry Gyroscope Co., and also the National Association of Manufacturers.

Mr. HESELTON. If the gentleman will yield, I should like to mention one more name: The Rev. J. C. S. O'Donnell, president of Notre Dame University.

Mr. JAVITS. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from New York.

Mr. JAVITS. May I ask the gentleman whether, in view of the fact that we have heard that an atomic explosion has taken place in the U. S. S. R., he can conceivably justify such complacency as the movant has shown in his remarks before the committee, we dare not in the interests of security or of economic progress be left behind in the onward progress of science of which basic research is the Foundation.

Mr. PRIEST. I hope, Mr. Chairman, that this preferential motion will be voted down.

The CHAIRMAN. The question is on the preferential motion offered by the gentleman from Mississippi.

The motion was rejected.

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that all debate on the Heseltion amendment to the Harris amendment close in 10 minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

The CHAIRMAN. The Chair recognizes the gentleman from Wisconsin [Mr. KEEFE].

Mr. KEEFE. Mr. Chairman, there is a matter in connection with this proposed limitation on appropriations that I think ought to come to the attention of the Congress that has not been discussed by any member of the committee up to date. Regardless of whether or not a maximum limitation is written into this bill, the Congress always has the right and the opportunity to examine into every budgetary estimate that is submitted, which must come annually before the Appropriations Committee, first, and then before the Congress.

I can say to you that, in my humble opinion, whether there is a limitation on the amount of ultimate appropriation in this bill or not, the committee that is formed under the provisions of this bill would have to justify thoroughly any expenditure they might make before the proper Subcommittee on Appropriations, then before the full committee, and finally before the Congress itself. So I am not too much concerned about the question of limitation except this: It has been stated repeatedly that the purpose of this bill is to insure the production of trained scientists. Is that correct, Mr. Chairman?

Mr. PRIEST. It is to procure the production of trained scientists plus the conduct of basic research with those we already have.

Mr. KEEFE. Plus the conduct of basic research by those who are already scientists and those whom you expect to train.

We ran against that situation in the programs carried on by the National Institute of Health, and what did we find? We found that you could not induce a young man to go into a 6- or 7-year course of study necessary to provide him with the necessary education to become a trained scientist when he is constantly subjected to the annual whims or caprices of Congress as to whether funds will be provided to carry on that fellowship when originally granted. So the subcommittee of which I am proud to

be a member attempted to do something about that, and this Congress supported us when we wrote the legislation in the appropriation bill that would authorize contract authority when this man is selected to take training so that he could be assured that he would not have his training interfered with and cut off at the end of any fiscal year, and that he could go on and complete the training.

If you reduce the over-all authorization to the point where you say that it is \$1,000,000, as a psychological matter it would be a great deterrent to the recruitment of young men and young women into the field of scientific learning and education to be the ones to carry on this basic research program. I sincerely think while the motive of my friend, the gentleman from Massachusetts is good, the psychological effect would be to defeat one of the very important purposes of this legislation.

Mr. WOLVERTON. Mr. Chairman, will the gentleman yield?

Mr. KEEFE. I yield.

Mr. WOLVERTON. I call to the gentleman's attention the language in paragraph (b) of page 21:

Appropriations made pursuant to the authority provided in subsection (a) of this section shall remain available for obligation or expenditure, or for obligation and expenditure, for such period or periods as may be specified in the acts making such appropriations.

Mr. KEEFE. I understand that language is there, and I presume that the hidden meaning behind the language is to take care of the very situation which I have referred to. So that when a fellowship is in fact established there will be sufficient funds available extended over a period of years necessary to complete the training to enable that trainee to complete his course. If you limit the authority to merely \$1,000,000 you are putting a blanket right over the heads of those who might otherwise be induced to go into training. We have had that experience in the training programs in the Public Health Service. I do not think you want to do it here if the purpose of this act or at least the major purpose is to carry on and train scientists.

Mr. HESELTON. Mr. Chairman, will the gentleman yield?

Mr. KEEFE. I yield.

Mr. HESELTON. I know that the gentleman understands that we all are working under pressure here.

Mr. KEEFE. Yes.

Mr. HESELTON. I had hoped that by submitting this amendment I could give others and myself the opportunity to make a decision. The gentleman and my colleagues have been so persuasive I am convinced that \$1,000,000 is too little. I am not convinced, however, that \$15,000,000 is not too much. But under the circumstances, Mr. Chairman, I will ask unanimous consent to withdraw my amendment.

Mr. KEEFE. May I say to my friend my experience on the Committee on Appropriations is that regardless of the amount of the authorization you have a pretty good scrutiny as to what is ultimately requested of the Congress. Do you want me to point out one example?

You have had a \$29,000,000 authorization for appropriations for vocational education. The Congress, up to date, under all of the pressures that have been exerted, has refused to appropriate more than slightly under \$20,000,000 for that purpose, although the authority exists and has existed for many years to appropriate up to \$29,000,000. You do have a good secondary check when the appropriations item comes before the Congress.

The CHAIRMAN. The time of the gentleman from Wisconsin has expired.

Mr. HESELTON. Mr. Chairman, I ask unanimous consent to withdraw the amendment I have offered.

The CHAIRMAN. Is there objection to the request of the gentleman from Massachusetts?

Mr. CHURCH. Mr. Chairman, I object.

Mr. BYRNES of Wisconsin. Mr. Chairman, I rise in opposition to the pro forma amendment.

Mr. Chairman, I presume the real amendment which is now before us for consideration is the amendment of the gentleman from Arkansas, which has in effect been accepted by the committee. I certainly believe it is advisable to have limitations in this bill so far as the expenditure of funds is concerned. I wonder though sometimes how much these limitations actually mean. In my short period of 5 years as a Member of the House of Representatives I have seen cases many times when we have come in with an open-handed proposition and in order to make it more palatable to the membership we say, "Well, we will put a limitation on this so that we will be sure to keep it within bounds."

So the limitation is put in. Then within 2 years or so another bill comes in raising that limitation. Therefore I appreciate the words of the majority leader when he said that fundamentally this is not a program for just 1 or 2 years and that basically it is a long-range program. These long-range programs are the ones which worry me the most because I wonder what we are committing future generations to by way of expenditure of funds for Government.

I would call the attention of the House to the RECORD of February 22 in which on page 2170 appears a table prepared by the Committee on Expenditures in the Executive Departments of the other body. You will find there listed some 16 programs and the potential cost thereof, new programs or legislation proposed by the President for the fiscal year 1950-51. They set forth the initial cost and the estimated annual cost of these programs.

It is interesting to note that the estimated initial cost of all of them is \$7,020,000,000. I suppose maybe in some respects these programs are worth that amount of money, but let us look at what the estimated cost of the programs in full operation is: \$25,187,000,000. What we are trying to do in too many of these programs is to sell ourselves on the idea that they are fine and needed and necessary, on the basis of the cost, which in no way has a bearing upon the actual cost of the program in full operation.

In connection with this particular piece of legislation, I think it is advisable to read what the staff of the Committee on Expenditures in the Executive Departments in the other body found in connection with the National Science Foundation. They state the initial cost to be \$15,000,000, when in full operation the cost will be \$100,000,000. But because perhaps many of you may not have available the CONGRESSIONAL RECORD of February 22, I would like to read hurriedly their findings in connection with this legislation:

The President estimated that an appropriation of \$2,500,000 and \$12,500,000 of contract authority would be required to establish the organization. Sponsors of the legislation creating the NSF find it difficult to forecast what the annual expenditure will be after the program gets under way, since there are several important intangibles to be considered.

The estimate of \$100,000,000 is ultraconservative, but was supplied by the Bureau of the Budget as being the most accurate estimate that could be procured. The President's Scientific Research Board recommended annual appropriations of \$50,000,000 for basic research, outside of the Foundation's own laboratories, in the initial stages of the program, and estimates that the total annual cost of this phase of the program would exceed \$250,000,000 by 1953. The extent of the scholarship phase will depend on authorizations granted by Congress, and the figures shown in the summary are estimated to cover the present proposed program. Including scholarships, research expenditures, and other phases of the program, the total will approximate \$350,000,000 annually.

So, Mr. Chairman, I wonder what the limitation really will amount to in the long run.

The CHAIRMAN. The time of the gentleman from Wisconsin [Mr. BYRNES] has expired.

All time has expired on the Heselton amendment.

The question is on the amendment offered by the gentleman from Massachusetts [Mr. HESELTON] to the amendment offered by the gentleman from Arkansas [Mr. HARRIS].

The amendment to the amendment was rejected.

The CHAIRMAN. The question recurs on the amendment offered by the gentleman from Arkansas [Mr. HARRIS].

The amendment was agreed to.

Mr. WADSWORTH. Mr. Chairman, I offer an amendment which is at the desk.

The Clerk read as follows:

Amendment offered by Mr. WADSWORTH: On page 2, line 16, after the word "support" insert "basic."

Mr. WADSWORTH. Mr. Chairman, I have listened with deep interest to the discussion that has taken place this afternoon on this bill. I cannot escape the conclusion that amongst its own supporters there is very little certainty as to where it goes or what field it covers. Their concepts of it seem to differ very materially.

Before discussing the amendment which I have proposed, I cannot resist the temptation to make somewhat of a reply to the statement made by the gentleman from Wisconsin [Mr. BIEMILLER], to the effect that the Sperry Gyroscope

Co. is in support of this measure. I have here a telegram addressed to me, dated New York, February 28:

I understand Mr. J. PERCY PRIEST has listed Sperry Gyroscope Co. as supporting H. R. 4846, through my testimony. Have not seen H. R. 4846 or the circular Mr. PRIEST is alleged to have sent to Members of Congress. My only testimony on science legislation was given more than 4 years ago on behalf of the Aircraft Industries Association and not on behalf of any company. It was very general in character and was not in support of any bill.

Mr. PRIEST. Mr. Chairman, if the gentleman will yield, may I inquire if the telegram was signed by Mr. R. E. Gilmore?

Mr. WADSWORTH. Yes; I should have read that: Signed by Mr. R. E. Gilmore.

Mr. PRIEST. Without taking too much of the gentleman's time, may I say that the gentleman was listed as supporting the legislation in a summary prepared by the committee of witnesses of engineering colleges at one time, although not now, on a bill with another number. The number of this bill was changed, for this bill is a clean bill. It was my understanding that he personally did support the legislation.

Mr. WADSWORTH. He states very specifically here that he did not. I may say that I have two or three more telegrams from representatives of institutions of one kind or another, whose names are included in the list of supporters, who deny that they have ever authorized such inclusion; but I shall not go into that at this moment.

Mr. Chairman, the scientists in whom I have the greatest confidence, men like Dr. Vannevar Bush, Dr. Compton, and others, have from the beginning of this entire discussion insisted that the work of this foundation should be devoted to the encouragement of basic research. Quotations have been read to the committee from statements issued by Dr. Compton and Dr. Vannevar Bush, and you will note that in those statements only basic research is referred to, and the whole plea is made by those estimable gentlemen that this legislation be passed in order that basic research be encouraged in this country and saved from what might be termed ultimate extinction.

Mr. FULTON. Mr. Chairman, will the gentleman yield?

Mr. WADSWORTH. I yield.

Mr. FULTON. I might point out to the gentleman that subparagraph (2) of section 2 reads:

The Foundation is authorized and directed to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences—

The paragraph to which the gentleman refers is simply a limiting provision referring to the Department of Defense research.

Mr. WADSWORTH. I understand, I am coming to that. I understand what the paragraph means, and the gentleman from Pennsylvania does not have to tell me about it.

Mr. Chairman, the paragraph reads, on line 15, page 2:

After consultation with the Secretary of Defense—

Just what that means I doubt if anyone knows. Shall the consultation be by telephone, by mail, or in personal conversation?—

After consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense.

I emphasize "matters relating to the national defense." The efforts made by the Military Establishment in scientific research today are by far the largest of all efforts in that field. As I quoted to the committee here yesterday, the armed services alone are spending at the rate of \$544,000,000 in their research programs. The Atomic Energy Commission, a large measure of whose time is taken up in the interest of national defense with the A-bomb and the hydrogen bomb, is spending over \$500,000,000 a year.

True, this Foundation cannot invade the field of the Atomic Energy Commission.

The CHAIRMAN. The time of the gentleman from New York has expired.

Mr. WADSWORTH. Mr. Chairman, I ask unanimous consent to proceed for five additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from New York?

There was no objection.

The CHAIRMAN. The gentleman from New York is recognized for five additional minutes.

Mr. WADSWORTH. I am very grateful to the Members for giving me this additional time.

There is a separate institution whose headquarters are at Langley Field, Va., I believe, the National Advisory Committee for Aeronautics. They are spending millions and millions of dollars in the field of national defense, and there are other institutions spending millions of dollars in the same field. Most of their activities are not in the field of basic research. But under this paragraph the Foundation can go into the field of applied science in any institution, governmental or otherwise, which is engaged in trying to assist the national defense. That enormously expands its field, and that particular extension of power is not mentioned to the best of my knowledge and belief in any of the communications of Dr. Vannevar Bush or Dr. Compton.

As I tried to emphasize yesterday, this bill goes further than merely basic research, and it would not be at all surprising to me that if no limitation were placed on it, it would cost over \$300,000,000 a year. I have endeavored to find out from Dr. Vannevar Bush and Mr. Pace, Director of the Budget, what money now being expended by the military services could be transferred to the Foundation and thus no increase in expenditures created. I have never been able to get any assurance that there will be any saving at all—none whatsoever. The gate is left wide open here.

Can anybody tell me why it would hurt the national defense or hurt the interest of basic research, which admittedly is the chief objective of this bill, to insert the word "basic" in front of the words "scientific research" in this paragraph?

Mr. HARRIS. Mr. Chairman, will the gentleman yield?

Mr. WADSWORTH. I yield to the gentleman from Arkansas.

Mr. HARRIS. Is it not a fact that Dr. Vannevar Bush was director of the wartime Office of Scientific Research and Development, which was a very active organization during the war?

Mr. WADSWORTH. Yes.

Mr. HARRIS. Is it not a fact that in the course of the activities of that office they cooperated their organization with the national defense?

Mr. WADSWORTH. I understand that.

Mr. HARRIS. And in the interchange of those activities we had the atomic bomb come from it, is that true?

Mr. WADSWORTH. My recollection is that the atomic bomb was not developed under the jurisdiction of the Vannevar Bush organization.

Mr. HARRIS. Not at all, but out of this cooperation of the scientific research program and the national defense.

Mr. WADSWORTH. Yes, but that is a separate organization.

Mr. HARRIS. Is it not a fact that if in the case of emergency they had this interchange of activities it certainly might be very helpful?

Mr. WADSWORTH. I cannot understand why people should say this thing is solely for basic research and insist on multiplying its field of operations five or six times beyond basic research.

Mr. HARRIS. Only in the case of our national defense.

Mr. WADSWORTH. It does not say "in the event of an emergency." For example, the Air Force is experimenting with guided missiles. It may be that part of their experimentation may be termed basic research under the terms of this bill, if properly interpreted in paragraph 2. That basic research could be taken away from the Air Force but the applied science, the experiments with the missiles that are going on by the hundreds every month, must stay with the Air Force. The same with the Navy's program, which is exceedingly broad. Their program now contains certain elements of basic research. I have never been able to find from scientists how much basic research is done proportionately in these military efforts as compared with applied science. I am sure we do not want this body to take charge of applied science in all the military services. My amendment is to clarify the purposes of this bill which are thus far clothed in confusion.

The CHAIRMAN. The time of the gentleman from New York has again expired.

Mr. HINSHAW. Mr. Chairman, I rise in opposition to the amendment. I do so reluctantly, as no Member of this House wants to take on the very able and distinguished gentleman from New York, whose judgment we so highly respect.

In connection with his amendment, let me call attention to the fact, first, that the only exception to the general limitations to basic research that is contained in the bill is that which relates to the National Defense Establishment. The gentleman from New York would have us place words in subsection (3) on page 2 which would limit the work done for the Secretary of Defense and the National Defense Establishment to basic research only.

I would like to call the attention of the members of the committee to another page, page 19, subsection (h) where it says:

Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made—

And so forth. Now that, of course, limits the Foundation in expending any funds transferred to it by the National Defense Establishment to the purposes which are intended by the National Defense Establishment. If the National Defense Establishment intends that any part of the funds shall be used for other purposes than basic research, it will so state. If it intends that the use of the funds transferred to the Foundation by the National Military Establishment shall be exclusively for the purposes of certain basic research, it will so state, and the Foundation has no power whatsoever to utilize those funds for different purposes.

Now, I would like to say this: As the gentleman from New York probably is quite well aware, there are certain areas of research which are rather shadowy as between whether or not the subject is one of basic research or whether it be applied research. Such research can be made, for example, into the alloys of metals. There is fundamental research, basic research to be done, in the flow of metals under heat and in compression, in tension, and so forth, in the alloys in which the National Defense Establishment is very deeply interested and highly concerned. A part of that research is definitely in the area of basic research. Some of the research in connection therewith is not so definitely in the area of basic research, but nevertheless it is a highly scientific research which is engaged in ordinarily in the laboratories of the universities of the United States. As the gentleman well stated, some \$540,000,000 per annum is now being expended by the National Military Establishment in its three separate branches for the purpose of research.

Gentlemen of this Committee, if there is anything more important to the welfare of the United States than the research of the National Military Establishment, in the discovery of new basic concepts which will be for the protection of our country, I would like to know what it is. The National Defense Establishment, just as any other agency, is limited now by having reached the bottom of the

barrel of knowledge in certain vitally important categories. They must go forward and find new knowledge with which they may be able to develop new techniques for the defense of our country. I think it would be a very great mistake, indeed, not to permit the National Defense Establishment, if it pleases to do so, and only if it pleases to do so, as is set forth in this bill, to assign to the National Science Foundation such research work as it deems necessary, and to be performed outside of the National Military Establishment through its general assignment of that function as it deems fit.

Mr. WADSWORTH. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield to the gentleman from New York.

Mr. WADSWORTH. Certainly the gentleman, I think, will not contend that my amendment will handicap the National Defense Establishment.

Mr. HINSHAW. I think it probably would, because the National Defense Establishment, before it could make any transfer of funds for its own purposes would have to make a determination that the funds so transferred were to be used solely and exclusively for and to come within the definition of basic research.

The CHAIRMAN. The time of the gentleman from California has expired.

Mr. HINSHAW. Mr. Chairman, I ask unanimous consent to proceed for three additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from California?

There was no objection.

Mr. HESELTON. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield to the gentleman from Massachusetts.

Mr. HESELTON. I call the attention of the committee to the report made by the President's board in terms of the division between basic and applied research, which the gentleman from New York mentioned a few minutes ago, within the War and Navy Departments in 1947, which is the latest information I have. A total of \$500,000,000 was expended in that year, \$35,000,000 for basic and \$465,000,000 for applied research.

Mr. HINSHAW. I thank the gentleman. That indicates the necessity that these agencies have for going beyond their present field of knowledge.

Mr. KEATING. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield to the gentleman from New York.

Mr. KEATING. Does not the gentleman feel that it would be a desirable thing for the National Defense Establishment to be required to determine that it was basic research before they turned over an activity to this fund, which is supposed to be limited to basic research?

Mr. HINSHAW. The National Defense Establishment now has the power and the funds to contract directly for research in or along any lines it chooses. The National Military Establishment for its own purposes might like to have a bit

of research that was not exactly basic, so to speak, done outside of its own agencies in order, perhaps, to obtain a greater degree of a certain kind of security. There are reasons why the National Military Establishment, for its own purposes, might like to have the Foundation do certain other research.

Mr. KEATING. Does the gentleman contend the security would be greater under this fund than in the National Military Establishment itself?

Mr. HINSHAW. The National Military Establishment makes contracts with universities and with private establishments. Whenever it makes a contract with a university those engaged under that contract are well aware that it is a matter of national security. But they may wish to originate or make a contribution toward certain research endeavors, the favorable results of which might well contribute to a solution needed in the interest of better defense. It is quite possible that a part or the whole of such research might not come exactly under the definition of basic research.

Mr. RICH. Mr. Chairman, will the gentleman yield?

Mr. HINSHAW. I yield to the gentleman from Pennsylvania.

Mr. RICH. In speaking of the National Military Establishment and the research they are doing, they can go into most any branch of research that they choose.

Mr. HINSHAW. They do actually.

Mr. RICH. They can and they do. They are now spending over a half million dollars a year. The gentleman talks about getting at the bottom of the barrel. I say to the Members of the House that you are at the bottom of the barrel financially. Setting up this organization is only going to wreck us.

Mr. HINSHAW. That may be true; but in answer to that may I say that it is about time we got some more basic knowledge in the United States so we can proceed to better the life of our people and improve our national defense.

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that debate on the Wadsworth amendment close in 5 minutes.

Mr. CASE of South Dakota. Mr. Chairman, reserving the right to object, I would like to talk directly to the amendment and would like some time.

Mr. PRIEST. Then, Mr. Chairman, I ask unanimous consent that debate on this amendment close in 10 minutes.

Mr. CHURCH. Mr. Chairman, I object.

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that debate on this amendment close in 15 minutes, with 4 minutes to be reserved for the committee.

Mr. CHURCH. Mr. Chairman, I object.

Mr. PRIEST. Mr. Chairman, I move that debate on the Wadsworth amendment close in 15 minutes.

The motion was agreed to.

Mr. JENNINGS. Mr. Chairman, I move to strike out the last word.

Mr. Chairman, the thing about this measure which alarms me is it appears

to be an unnecessary costly duplication of facilities we already have. One would think we had no scientists and no laboratories and no facilities. I have been laboring under the impression in view of what we did in the last World War that we have an industrial system which is the envy and admiration of the world. In the great universities of this country and in connection with great industrial enterprises of the country there are scientists and research is being carried on. There are men able to carry out the very work that is proposed to be carried on by this Foundation.

In addition to that it is designed, in my opinion, and if you will read the bill you will see that is what it means, to mushroom and store and multiply and increase without end, not only in this country, but all over the world. We have one remedy for all the ills that beset us and that is to spend money and more money—money that we do not have for things we can do without and do not need. That is what we are doing. You talk about getting rid of a bureau or a bureaucrat. When have we gotten rid of a bureau and when have we ever gotten rid of a bureaucrat? Few of them die and none of them ever resign. I think there is implicit in this organization an effort which, if it succeeds, will take over and absorb the agencies and functions which are now being carried on by our universities and great industrial enterprises. We built the atomic bomb. How did we do it? Did we have a Foundation of Science? Not at all. The War Department engaged the services of 1,000 scientists, many of whom never saw Oak Ridge. They did the job. Do we know how to make an airplane? I think we do. Haven't we got wind tunnels all over the country? We have great apartments where it is just so cold—just as cold as it can get anywhere. Yet it is proposed to set up a governmental agency one of the purposes of which is to foster the interchange of scientific information among scientists in the United States and foreign countries. Why, the Hisses and the Fuchses attend to the dissemination of knowledge with respect to our most intimate secrets and it does not cost us a cent. When a man named McCARTHY, from Wisconsin, takes out after a bunch of traitors in the State Department, whose name is legion, the men who have control of that information sit on it.

There is such an offense in law as misprision of a felony, misprision of treason. What are those who are concealing these facts from the agency doing? If I understand it, they are guilty of misprision of a felony, misprision of treason. We are concerned that the world will not find out what we are doing. I think if this sprawling endless bureaucracy is fastened upon the people of this country, no man can foretell what it will finally cost, and I will look upon it as a future harbor and dwelling place for Communists and traitors in our own country and those who come to us from all corners of the world.

The CHAIRMAN. The time of the gentleman from Tennessee [Mr. JENNINGS] has expired.

Mr. CASE of South Dakota. Mr. Chairman, I rise in support of the amendment.

The amendment offered by the gentleman from New York [Mr. WADSWORTH] proposes to insert the word "basic" at a certain point on page 2, which would clarify the scope of the bill and the authority of the Foundation.

I have in my hand a table which was compiled by the Bureau of the Budget as of January 1950, which lists 26 agencies of the Government which have research development funds. I am not going to take time to read all of the figures in detail, but the list ranges from the Atomic Energy Commission to the Treasury Department. It includes the proposed National Science Foundation, for \$500,000.

The total for this fiscal year 1951, as recommended by the Budget for research development, amounts to \$1,317,223,298. If any of you are interested in the table, here it is.

In connection with the Atomic Energy Commission, they have a very sizable amount, a total of \$300,000,000, for research development. Out of that, \$23,000,000 in 1950 and \$18,000,000 in 1951 could almost be classified as basic research. Of the \$18,000,000 which the Atomic Energy Commission is asking for 1951, approximately 10 percent, or \$1,800,000, is available for fellowships. That is for basic scientific research. The balance is for farming out to universities and under various contracts for research.

The National Advisory Committee for Aeronautics asks \$62,600,000 in cash, and another \$15,000,000 in contract authority for research projects and to be farmed out to universities—\$777,500.

One thing that concerns me about the language is that in addition to the language on page 19, to which the gentleman from California [Mr. HINSHAW] directed attention, there is language on page 12 under the heading of General Authority of Foundation, which provides that—

The Foundation shall have the authority to enter into contracts or other arrangements or modifications thereof for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities and such scientific research activities in connection with matters relating to the national defense as the Foundation deems necessary to carry out the purposes of this act.

There is no requirement in this section that the Secretary of Defense should even be consulted. Under the language cited by the gentleman from California [Mr. HINSHAW], the money could be transferred out of these funds I have cited, a total of \$1,300,000,000, which would be expendable by this Foundation upon transfer and without appropriation. On its own motion this Foundation ought not go into national defense activities unless it does have the consent of the agency which is engaged in the applied research.

Mr. HINSHAW. Mr. Chairman, will the gentleman yield?

Mr. CASE of South Dakota. I yield.

Mr. HINSHAW. The gentleman has referred to some important language on

page 12, which of course is merely for the purpose of permitting the Foundation to assign work which is, in turn, assigned to it by the national defense establishment. It is not the intention of the committee that in the contracts which they would necessarily make with the university for basic research or any other form of research, that they could go beyond the reasons given for the transfer of funds on page 19.

Mr. CASE of South Dakota. Certainly, the language on page 12 is pretty broad; it does not refer to the other part of the act. It seems to be the portion of the bill which sets forth the provisions of this act governing the authority of the Foundation.

Mr. HINSHAW. Authority to the Foundation is limited in this case to that given to the National Defense Establishment.

Mr. CASE of South Dakota. It does not refer to the National Defense Establishment in this section on page 12.

Mr. WADSWORTH. Mr. Chairman, will the gentleman yield?

Mr. CASE of South Dakota. I yield.

Mr. WADSWORTH. May I call the gentleman's attention to the fact that the language on page 12 authorizes these contracts to be made with foreign organizations and foreign citizens.

Mr. CASE of South Dakota. Certainly, the language on page 12 will have to be tightened up if the act is to conform to the interpretations many have attempted to place on it.

Mr. HINSHAW. I am sure that if the gentleman would draw an amendment to satisfy his idea, the Committee would be glad to accept it, because that certainly is the intention of the Committee.

Mr. CASE of South Dakota. In the meantime, I hope the amendment offered by the gentleman from New York is accepted.

Mr. FULTON. Mr. Chairman, I rise in opposition to the amendment.

Mr. Chairman, I ask you to scan the act with me for a minute. By the language of section 3, subsection (1) you will notice that the Foundation is authorized and directed (1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences. Subparagraph (2) states that it is to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences.

If you will then go down to subsection (3) which the gentleman from New York wishes to amend, you will note that he is trying to put the word "basic" in a section which refers to a specific application of the research. Basic, of course, within the act, is defined really as meaning foundation work of broad effect, but with no immediate practical application. In the first of the two subparagraphs, therefore, you have basic research, meaning broad research of a foundation character with no practical application. If that is the definition within the first two subdivisions, if you try to put it in the third subdivision where you are talking of a practical application, you are illogical, because you are specifically saying that when the research is in connection with matters relating to the national defense

that it shall be done after consultation with the Secretary of Defense. As the bill stands now, unrestricted, it provides that the Foundation shall have broad power to consult on research; but, as has been brought out by the gentleman from California, the amendment offered by the gentleman from New York would restrict this bill on the one thing that is the most important—national defense.

I therefore hope that the amendment offered by the gentleman from New York will be defeated.

In the balance of the time at my disposal I wish to ask the chairman of the committee a question. The bill states on page 2, line 25:

To foster the interchange of scientific information among scientists in the United States and foreign countries.

How is it intended that that shall be done? What method does the bill provide?

Mr. HINSHAW. Mr. Chairman, will the gentleman yield?

Mr. FULTON. I yield.

Mr. HINSHAW. There are certain scientific publications of general circulation such as the publications of the American Association for the Advancement of Science, and others that have international exchange between persons who are interested, mostly scientists. The publication of such things and the exchange of such information which is not classified comes under another section of the bill. It should be encouraged in order to have available to ourselves, for example, certain information which we need from abroad.

Mr. FULTON. So it refers, then, only to unclassified information which can be given to any country, whether behind the iron curtain or in front of the iron curtain.

Mr. HINSHAW. That is quite correct.

Mr. FULTON. But it does not relate in any way to information that is otherwise classified which might be given to a country that might be called one of the Atlantic Pact countries, for example?

Mr. HINSHAW. The gentleman is thinking of the Atomic Energy Act, is he not?

Mr. FULTON. In particular I am thinking of information that would otherwise be classified but might be given to an Atlantic Pact country; such information would not be given to them. There is no attempt under this act to give anything otherwise classified to any country who might be our ally?

Mr. HINSHAW. Anything that is classified comes under the complete control and authority of the Department of National Defense or under the Atomic Energy Commission, according to existing law. This bill provides for classification and no exchange could be had of classified material or information.

Mr. FULTON. I thank the gentleman. Now, referring to page 3, line 12, under subparagraph (7) why does not the committee in this sentence put a limitation as to the number when it says:

To establish such special commissions as the Board may from time to time deem necessary for the purposes of this act.

That would seem to me to set up unlimited bureaucracy.

Mr. HINSHAW. We attempted to place in the bill certain commissions by name. When we started out to do that, we found there were so many interests that wanted to have their own special commissions and that could apply great pressure, that in order to avoid pressure and leave it in the discretion of the scientists themselves as to what commissions should be established, we placed it in this way.

The CHAIRMAN. The time of the gentleman from Pennsylvania has expired.

Mr. PRIEST. Mr. Chairman, I rise in opposition to the amendment offered by the gentleman from New York.

Mr. Chairman, I hope the amendment will be defeated. The gentleman from California [Mr. HINSHAW] already has adequately presented the argument from the standpoint of the committee as to why this amendment should be defeated. The term "basic" is omitted with reference only to the national defense and to an agreement entered into after consultation with the Secretary of Defense.

Let me make this statement. Suppose, for instance, we were at war, or suppose that war was very imminent and it is necessary in this Nation to utilize every possible scientific research organization in the country. I feel it should be possible under a situation such as that for the Secretary of Defense, if he so desires, to request the National Science Foundation to engage in certain research and that certainly there should be authority in the act for it to do so without splitting hairs as to whether that research is basic or whether it is not basic, if the security and the safety of the Nation may be at stake and the Secretary of Defense wants it and the Foundation is able and willing to do it. We purposely left out "basic" in this paragraph because of our interest in providing in every possible way for this legislation to advance the programs of the national defense.

Mr. CASE of South Dakota. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from South Dakota.

Mr. CASE of South Dakota. In line with what the gentleman said, would there be any objection to including language on page 12 to make it conform with that which is stated on page 2, to require the approval after consultation with the Secretary of Defense when the Foundation engages in general scientific and research activities?

Mr. PRIEST. I certainly would not object to any language, if it is necessary, that would require this approval. I believe the gentleman from California set that out in his reply to the gentleman.

Mr. HINSHAW. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from California.

Mr. HINSHAW. In reply to the gentleman from South Dakota I think it would add to our defense in that particular paragraph and I see no objection to it.

Mr. PRIEST. I can see no objection to it because that is the intention of the committee, to make it possible if the national defense so requires to ask this

Foundation to do some research which might not be basic. I feel it is tremendously important for the Nation's welfare that such authority be granted in this legislation.

Mr. HESELTON. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Massachusetts.

Mr. HESELTON. In connection with the statement made by the gentleman from California, I call attention to the fact that in the third report of the President's Scientific Research Board it is explained that the cost of developments in World War II were switched completely from predominance within our own Government facilities into contracts. There is this language:

At present the War and Navy Departments expended over 90 percent of the funds covered in contracts for research and development.

Mr. PRIEST. Mr. Chairman, I hope the amendment will be voted down.

The CHAIRMAN. The time of the gentleman from Tennessee has expired.

Mr. RANKIN. Mr. Chairman, I make the point of order that a quorum is not present.

The CHAIRMAN (after counting). One hundred forty-six Members are present, a quorum.

The question is on the amendment offered by the gentleman from New York [Mr. WADSWORTH].

The question was taken; and on a division (demanded by Mr. WADSWORTH) there were—ayes 57, noes 79.

Mr. TABER. Mr. Chairman, I demand tellers.

Tellers were ordered, and the Chairman appointed as tellers Mr. WADSWORTH and Mr. PRIEST.

The Committee again divided, and the tellers reported that there were—ayes 73, noes 94.

So the amendment was rejected.

Mr. SMITH of Virginia. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. SMITH of Virginia: On page 20, line 21, insert a new paragraph as follows:

"(1) No person shall be employed by the Foundation and no scholarship shall be awarded to any person by the Foundation unless and until the Federal Bureau of Investigation shall have investigated the loyalty of such person and reported to the Foundation such person is loyal to the United States, believes in our system of government, and is not and has not at any time been a member of any organization declared subversive by the Attorney General or any organization that teaches or advocates the overthrow of our Government by force and violence."

Mr. SMITH of Virginia. Mr. Chairman, for the benefit of those who were otherwise engaged and did not hear the amendment read, I want to say what it does is to require an FBI investigation as to the loyalty of students to whom these scholarships and fellowships may be given and with respect to the employees of this Foundation. I have serious misgivings about the whole bill itself. It is a wide-open proposition. The limitations are very few. There is one thing we all know about this bill. I have listened to

the debate today and doubt if any of us know too much about it or what it means or what its implications are. There is one thing we do know about this bill. When this scientific foundation is set up it will have access to the most vital secrets of this Government. Having access to those secrets, it will be the place where every person of subversive inclination and where every foreign government, friendly or unfriendly, will have a great deal of curiosity about these secrets. If there is any one place in the Federal Government where we should undertake to protect ourselves, it is in connection with the loyalty of anybody who may be connected with or may have the opportunity to get at those most vital secrets. We know we are now having litigation involving two people who have betrayed the trust imposed upon them by their government in connection with the most vital secret information. What are we doing about it? I think one of them is getting a tap on the wrist for perjury. I do not think prosecution for perjury is an adequate punishment for treason.

However that may be, there is not much use in locking the barn door after the horse is stolen. What I am seeking to do is to lock the door against Communists, against fellow-travelers, and against foreign agents, and against anybody who does not believe in our form of government before the horse even gets a chance to be stolen. I cannot see what possible objection anybody can have to this amendment.

Mr. FULTON. Mr. Chairman, will the gentleman yield for a question?

Mr. SMITH of Virginia. I yield.

Mr. FULTON. I agree with the gentleman. But if you feel it should include anyone having any part in the program, do you not think it should be extended and made broader so that it includes all these organizations and institutions and individuals in the United States or foreign countries who are to take part in the program on research even though they are not students?

Mr. SMITH of Virginia. I feel I have gone pretty far, and about as far as I could very well go. If you get loyal people in, then those loyal people are going to see that no other disloyal people can mess around with your secrets. To be frank with you, I just cannot understand why anybody who has read this amendment and understands what this amendment does can object to it. It is going to be said that all employees of the Federal Government are now examined by the FBI. Well, that is just not correct. I have conferred with a member of the Committee on Appropriations who has to do with that. All the FBI does now is to receive a list of the names of proposed employees and the fingerprints of such proposed employees. They check them against what they have in their files and if nothing shows up, why, that it all there is to it. It has been suggested that we ought to cut out examining these fellows that we are going to educate through these fellowships. They are going to get from the Federal Government a free education. Will

somebody please explain to me why a person who is going to be educated at the expense of the taxpayers of the United States should not be loyal to the people of the United States? Somebody answer that, will you?

Mr. DURHAM. Mr. Chairman, will the gentleman yield?

Mr. SMITH of Virginia. I yield.

Mr. DURHAM. We do not require an investigation of the cadets at Annapolis or at West Point, do we?

Mr. SMITH of Virginia. No. The students at Annapolis and West Point do not have within their future grasp the secrets of the United States which these fellows who are being educated by these fellowships are going to have. That is the object of having the fellowships—it is to educate the people who go into this organization.

Mr. RANKIN. Mr. Chairman, will the gentleman yield?

Mr. SMITH of Virginia. I yield.

Mr. RANKIN. The students at Annapolis and West Point are watched and scrutinized for 4 years, and if there is anything wrong with them they are turned out.

Mr. SMITH of Virginia. That is true.

Mr. JENNINGS. Mr. Chairman, will the gentleman yield?

Mr. SMITH of Virginia. I yield.

Mr. JENNINGS. In all the long history of this country has any graduate of Annapolis or West Point ever betrayed his country?

Mr. SMITH of Virginia. Not to my knowledge.

The CHAIRMAN. The time of the gentleman from Virginia has expired.

Mr. PRIEST. Mr. Chairman, I am willing to accept the amendment offered by the gentleman from Virginia [Mr. SMITH].

The CHAIRMAN. The question is on the amendment offered by the gentleman from Virginia [Mr. SMITH].

The amendment was agreed to.

Mr. PRIEST. Mr. Chairman, I wish to inquire how many amendments there are now on the desk.

The CHAIRMAN. There are four amendments on the Clerk's desk.

Mr. PRIEST. Mr. Chairman, I move that the Committee do now rise.

The motion was agreed to.

Accordingly the Committee rose; and the Speaker having resumed the chair, Mr. THOMPSON, Chairman of the Committee of the Whole House on the State of the Union, reported that that Committee, having had under consideration the bill (H. R. 4846) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, had come to no resolution thereon.

EXTENSION OF REMARKS

Mr. PATTERSON asked and was given permission to extend his remarks in the Appendix of the RECORD and include a resolution from the Lithuanian-American Council in Waterbury, Conn.

Mr. RANKIN asked and was given permission to extend the remarks he made and include certain excerpts from newspapers and other publications.

Mr. MANSFIELD asked and was given permission to extend his remarks in the RECORD prior to the vote to send the bill S. 1008 to conference.

Mr. UNDERWOOD asked and was given permission to extend his remarks in the RECORD in regard to hearings before the House Ways and Means Committee on a graduated tax on tobacco.

Mr. DAVENPORT asked and was given permission to extend his remarks in the RECORD in two instances and include certain extraneous matter.

Mr. JONES of Missouri asked and was given permission to extend his remarks in the RECORD and include a newspaper article.

Mr. FURCOLO (at the request of Mr. PHILBIN) was granted permission to extend his remarks in the RECORD and include a certain excerpt.

Mr. HEFFERNAN asked and was given permission to extend his remarks in the RECORD and include an editorial which appeared in the Brooklyn Daily Eagle.

Mr. DELANEY asked and was given permission to extend his remarks in the RECORD in two instances; in one to include a protest against the abduction of Greek children, and in the second to include the remarks of Hon. James A. Farley.

Mr. LAGUE (at the request of Mr. GAVIN) was granted permission to extend his remarks in the RECORD and include an editorial.

Mr. JENNINGS asked and was given permission to revise and extend his remarks and include extraneous matter.

Mr. HESELTON asked and was given permission to revise and extend the remarks he made in the Committee of the Whole and include certain statistical information and extraneous matter.

Mr. CASE of South Dakota asked and was given permission to extend his remarks in the Appendix of the RECORD and include extraneous matter.

Mr. ELLIOTT asked and was given permission to extend his remarks in the Appendix of the RECORD and include extraneous matter.

Mr. BOYKIN asked and was given permission to extend his remarks in the Appendix of the RECORD and include a statement on the oil situation.

Mr. McCORMACK asked and was given permission to extend his remarks in the Appendix of the RECORD and include a letter he wrote to the Secretary of State and enclosures, notwithstanding the fact it exceeds the limit established by the Joint Committee on Printing and will cost \$225.50.

SPECIAL ORDER GRANTED

By unanimous consent, Mr. HOFFMAN of Michigan was given permission to address the House for 10 minutes on tomorrow and 10 minutes on March 6, following the legislative business of the day.

SPECIAL ORDER

The SPEAKER. Under the previous order of the House the gentlewoman from Massachusetts [Mrs. ROGERS] is recognized for 20 minutes.

(Mrs. ROGERS of Massachusetts asked and was given permission to revise and extend her remarks.)

ADMIRAL DENFELD

Mrs. ROGERS of Massachusetts. Mr. Speaker, I learned that today in Boston Admiral Denfeld, who was ousted as Chief of Naval Operations, left the Navy Department. He left it with the admiration of all those in the First Naval District and thousands of Americans. A salvo of guns was fired and every honor paid him as befitted a great naval hero.

Mr. Speaker, the United States Navy and the personnel of the Navy Department owe to martyred Admiral Louis Denfeld a debt of gratitude they never can repay. Some of those who did not dare to speak for our naval security will regret that they did not do so.

If additional authorizations and appropriations are made to strengthen our very much weakened Navy it will be to Admiral Louis Denfeld and a few naval officers who resigned from the service in protest over what was done to Admiral Denfeld. I understand that larger appropriations are being made and that there will be a stronger navy in the Pacific, and that some of the things that Admiral Denfeld felt obliged to recommend will be adopted. The fact that the Committee on Armed Services voted 22 to 8 today, as I have been told, that the removal of Admiral Denfeld was an act of reprisal verifies what I believe and what I have said before.

Mr. Speaker, we have been arming other countries I believe to the detriment of our own, and at a time while we have been weakening our own defense. I wish to read into the RECORD a letter I am today sending to the Secretary of State:

Hon. DEAN ACHESON,
Secretary of State,
Washington, D. C.

MY DEAR SECRETARY ACHESON: Information has come to me that great quantities of arms, tanks, planes, and submarines are being purchased by Egypt and other Arab nations from Great Britain and other European countries. This recent rearmament policy on the part of the Arab nations seems to have taken on a wartime tempo and appears to be much too accelerated a program merely for domestic security.

The citizens of the little state of Israel are alarmed, as they have just cause to be, in view of this situation. They are fully aware—and have made it known to American citizens—that the Arab leaders bluntly state, in their press and radio, that they are preparing for a second round with the Government of Israel. This is not altogether surprising, since the Arab nations have been reluctant to make peace treaties with the Government of Israel. Instead, the actions on the part of the Arab leaders indicate that they are intent on waging another war of revenge upon Israel.

The Government of the United States was the first to recognize the independence of Israel and has been giving financial assistance to the little nation. In admitting tens of thousands of Jewish DP's from Europe, Asia, and Africa, rehabilitating and settling these unfortunate men, women, and children who seek nothing more than peace and security in the land of their brethren, the Government of Israel has been confronted with an almost impossible task. This little nation needs every dollar to help these immigrants who are streaming in by the thousands daily. They can ill afford the strain on their financial resources to build a military fortress at this time. Yet, because of the hostile feeling of their Arab neighbors, they are being forced to do just that.

Lemke
Lichtenwalter
Lind
Linehan
Loye
Lucas
Lynch
McCarthy
McConnell
McCulloch
McDonough
McGregor
McMillan, S. C.
McMillen, Ill.
McSweeney
Mack, Wash.
Madden
Martin, Iowa
Martin, Mass.
Mason
Meyer
Michener
Miles
Miller, Md.
Miller, Nebr.
Mills
Morris
Moulder
Multer
Murphy
Murray, Tenn.
Nelson
Nicholson
Noland
Norblad
Norrell
Norton
O'Brien, Ill.
O'Brien, Mich.
O'Hara, Ill.

O'Hara, Minn.
O'Konski
O'Toole
Passman
Patten
Patterson
Pfeiffer
William L.
Philbin
Phillips, Calif.
Phillips, Tenn.
Pickett
Plumley
Potter
Poulson
Preston
Quinn
Rankin
Reed, Ill.
Reed, N. Y.
Rees
Rich
Riehlman
Rivers
Rodino
Rogers, Fla.
Rogers, Mass.
Rooney
Sadlak
St. George
Sanborn
Sasser
Saylor
Scrivner
Secrest
Shafer
Sheppard
Short
Sikes
Simpson, Ill.

Simpson, Pa.
Smith, Kans.
Smith, Va.
Smith, Wis.
Stanley
Stefan
Stigler
Sutton
Taber
Tackett
Talle
Tauriello
Thomas
Thompson
Van Zandt
Velde
Vinson
Vursell
Wadsworth
Wagner
Welch
Werdel
Wheeler
White, Calif.
Whitten
Whittington
Widnall
Wigglesworth
Williams
Willis
Wilson, Ind.
Wilson, Okla.
Winstead
Withrow
Wolcott
Wood
Woodruff
Young

NAYS—102

Angell
Aspinall
Bailey
Bates, Ky.
Battle
Biemiller
Bolton, Ohio
Burke
Burleson
Burnside
Byrne, N. Y.
Carnahan
Case, N. J.
Celler
Christopher
Combs
Cresser
Cunningham
Deane
DeGraffenried
Dingell
Doyle
Elliott
Engle, Calif.
Feighan
Fulton
Gordon
Granger
Gwinn
Hale
Halleck
Havenner
Hays, Ark.
Heslton
Hobbs

NOT VOTING—65

Abbitt
Allen, Ill.
Allen, La.
Anderson, Calif.
Barrett, Pa.
Blackney
Boggs, Del.
Boggs, La.
Bolling
Bolton, Md.
Boykin
Brooks
Bulwinkle
Cannon
Carroll
Chatham
Chudoff
Coudert
Davenport
Dawson
Douglas
Eaton

Ellsworth
Fogarty
Fugate
Furcolo
Gilmer
Gore
Hall
Leonard W.
Hedrick
Herter
Hinshaw
Hoffman, Ill.
Jackson, Calif.
Kean
Kunkel
Lesinski
Lyle
McGrath
Macy
Marcantonio
Morrison
Morton

Murray, Wis.
Pace
Poage
Redden
Regan
Roosevelt
Sabath
Sadowski
Scott, Hardie
Scudder
Shelley
Smathers
Smith, Ohio
Stockman
Taylor
Teague
Towe
Whitaker
White, Idaho
Wilson, Tex.
Woodhouse
Zablocki

So the motion was agreed to.
The Clerk announced the following pairs:

Until further notice;

Mr. Wilson of Texas with Mr. Allen of Illinois.

Mr. Redden with Mr. Towe.
Mr. McGrath with Mr. Eaton.
Mr. Gilmer with Mr. Anderson of California.
Mr. Morrison with Mr. Kean.
Mr. Sadowski with Mr. Taylor.
Mr. Roosevelt with Mr. Hardie Scott.
Mr. Barrett of Pennsylvania with Mr. Leonard W. Hall.

Mrs. Douglas with Mr. Herter.
Mr. Shelley with Mr. Hoffman of Illinois.
Mr. Whitaker with Mr. Boggs of Delaware.
Mr. Abbitt with Mr. Kunkel.
Mr. Regan with Mr. Coudert.
Mrs. Woodhouse with Mr. Smith of Ohio.
Mr. Allen of Louisiana with Mr. Jackson of California.

Mr. Bolton of Maryland with Mr. Blackney.

Mr. Cannon with Mr. Macy.
Mr. Chudoff with Mr. Morton.
Mr. Hedrick with Mr. Scudder.
Mr. Pace with Mr. Stockman.
Mr. Teague with Mr. Murray of Wisconsin.
Mr. Smathers with Mr. Ellsworth.

Mr. PHILBIN and Mrs. ROGERS of Massachusetts changed their votes from "nay" to "yea."

MESSRS. HOBBS, DEGRAFFENRIED, ANGELL, and JAMES changed their votes from "yea" to "nay."

The result of the vote was announced as above recorded.

A motion to reconsider was laid on the table.

EXTENSION OF REMARKS

Mr. GARY asked and was given permission to extend his remarks in the RECORD and include an editorial which appeared in the New York Times on February 22, 1950, entitled "The Case for ECA."

DISPENSING WITH FURTHER CALENDAR WEDNESDAY BUSINESS

Mr. PRIEST. Mr. Speaker, I ask unanimous consent that the further call of committees under the Calendar Wednesday rule today be dispensed with.

Mr. RANKIN. Mr. Speaker, I object.
Mr. PRIEST. Mr. Speaker, I move that further call of the committees under the Calendar Wednesday rule today be dispensed with.

The question was taken; and on a division (demanded by Mr. RANKIN) there were—ayes 219, noes 6.

So (two-thirds having voted in favor thereof) the motion was agreed to.

CORRECTION OF VOTE

Mr. SHAFER. Mr. Speaker, on roll call No. 72 I am recorded as not voting. I was present and voted "aye." I ask unanimous consent that the RECORD and Journal be corrected accordingly.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

There was no objection.

REFERENCE OF BILL

Mr. RANKIN. Mr. Speaker, I ask unanimous consent that the Committee on Veterans' Affairs be discharged from further consideration of the bill H. R.

5604, and that the bill be referred to the Committee on Armed Services.

The SPEAKER. Is there objection to the request of the gentleman from Mississippi?

There was no objection.

NATIONAL SCIENCE FOUNDATION

Mr. CROSSER. Mr. Speaker, I move that the House resolve itself into the Committee of the Whole House on the State of the Union for the further consideration of the bill (H. R. 4846) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The motion was agreed to.

Accordingly the House resolved itself into the Committee of the Whole House on the State of the Union for the further consideration of the bill H. R. 4846, with Mr. THOMPSON in the chair.

The Clerk read the title of the bill.

Mr. FULTON. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. FULTON: Page 15, line 25, strike out the words "after consultation with" and insert "with the approval of."

Mr. FULTON. Mr. Chairman, may I read this amendment. On page 15, line 25, it says:

The authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only after consultation with the Secretary of State.

My amendment would provide that it shall be exercised only after the agreement or the approval of the Secretary of State. As it is set up we can have a disagreement with the Secretary and the course followed will be out of line with the foreign policy of our country.

In addition to that, Mr. Chairman, I have another amendment which I ask to be read at this time, and I ask unanimous consent that the two amendments be considered together.

The CHAIRMAN. Is there objection to the request of the gentleman from Pennsylvania?

There was no objection.

The CHAIRMAN. The Clerk will report the next amendment.

The Clerk read as follows:

Amendment offered by Mr. FULTON: On page 20, line 16, strike out the words "after consultation with" and insert "with the approval of."

Mr. FULTON. On page 20, line 15, under subsection (k) it now reads:

The executive committee, after consultation with the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under this act.

My amendment would make it a requirement that the regulations and procedures shall have the approval of the Secretary of Defense. The provision will read, with my amendment, that the executive committee with the ap-

proval of the Secretary of Defense shall establish regulations and procedures for the security classification of information or property—having military significance—in connection with scientific research under this act.

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. FULTON. I yield to the gentleman from Tennessee.

Mr. PRIEST. May I say that so far as I am concerned, and I believe so far as the committee is concerned, certainly on this side, we accept both of the gentleman's amendments.

Mr. WOLVERTON. Mr. Chairman, will the gentleman yield?

Mr. FULTON. I yield to the gentleman from New Jersey.

Mr. WOLVERTON. Mr. Chairman, speaking for the members of the committee on this side, I will say that we are not opposed to the amendments offered by the gentleman from Pennsylvania.

The CHAIRMAN. The question is on the amendments offered by the gentleman from Pennsylvania.

The amendments were agreed to.

Mr. WADSWORTH. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. WADSWORTH: On page 3, strike out lines 15 to 19, inclusive.

Mr. WADSWORTH. Mr. Chairman, this paragraph authorizes the Foundation to maintain a register of scientific and technical personnel and in other ways provide a central clearing house for information covering all scientific and technical personnel in the United States.

Mr. Chairman, this is the very thing that the National Academy of Sciences has been doing since 1863. One of the duties imposed upon the National Academy of Sciences in its charter, which was granted in 1863, is to respond to requests of any department of Government, to furnish to that department scientific assistance and the names of the scientists who may be of assistance to the Government. They have kept that up for years and years.

It should be remembered that the National Academy of Sciences is not an arm of the Government. When they make up a list of available scientists no influence of Government is felt. To my mind, there is an exceedingly important difference between the present custom under the National Academy of Sciences and the one proposed here, because this National Science Foundation is to be an arm and part of the Government itself and, clothed with that power, the National Science Foundation can make up its own list of eligible scientists and that will become the Government's list.

That, I think, Mr. Chairman, is a power which should not be placed in the hands of a governmental authority. It should be left in the hands of the National Academy of Sciences, which is not a branch or arm of the Government but is an independent organization unswayed by politics or governmental policies.

It is for that reason that I move to strike out that paragraph and allow the present machinery to work as it has been working for years.

Mr. HESELTON. Mr. Chairman, I rise in opposition to the amendment.

Again, Mr. Chairman, let me say that I have the deepest regard and highest respect for the gentleman who has offered this amendment. It so happens that within the hour I have had a telephone conversation with Dr. Merriam E. Trytten, who is director of the office of scientific personnel, National Research Council. He asked me if I would explain to the Members the situation that exists now.

It is a fact that from 1863, when they initiated this effort, they did a pretty good job, but he told me that approximately 3 years ago because of lack of funds and lack of personnel they had to limit themselves to maintaining a register only from the Ph. D. level upward, that that is entirely unsatisfactory, and that they have no information about the existence or qualifications of our younger scientists, who are the ones that we are after all trying to locate and assist.

He asked me to say to you that the council not only does not oppose this provision, but that it hopes it will be kept in this bill. He says we will then have a working list which will be available not only to the Government but to industry, to private research institutions, as well as to our universities and colleges. I assure you that I believe he is giving us excellent advice.

I wish he had called the gentleman from New York. I can assure the gentleman I am giving the exact message that he gave to us. I hope you maintain this list for our own security.

Mr. FULTON. Mr. Chairman, will the gentleman yield?

Mr. HESELTON. I am glad to yield to the gentleman.

Mr. FULTON. In establishing this list and by being left off of it, will it more or less be a blacklisting of any individual or would it have any effect on his standing in the scientific community?

Mr. HESELTON. I do not understand there has been any occasion in the past where that has happened while it was in active use. I cannot conceive that any scientist who is qualified would be omitted from this list. The purpose of the listing is so that those who wish to get in touch with qualified scientists will know where they are and will be able to reach them. That is the only purpose.

The CHAIRMAN. The time of the gentleman has expired.

Mr. MILLER of Nebraska. Mr. Chairman, I move to strike out the last word and rise in support of the amendment.

Mr. Chairman, I rise in support of the amendment of the gentleman from New York. I also want to call your attention to some dangerous features in this bill. I have read with interest the hearings and I have listened for two days to various statements on the bill. The distinguished majority leader gave his splendid address on the bill, and I find in reading the address in the RECORD on page 2443, fourth paragraph, he said:

Our scientific world is without national leadership.

My colleagues, I was under the impression that we in the United States had made great progress in scientific and

technical leadership. I was under the impression that we led the rest of the world in probing the unknown, for after all, research is nothing more than probing the unknown—asking questions of nature and finding the answers. We have outstripped the rest of the world. We built the atomic bomb. We have made tremendous progress in all fields.

I want to speak specifically about the progress we have made in the medical field and make a comparison with what I saw in Germany and Hungary in the early twenties, and then some 15 years later.

You know those countries adopted socialized medicine. I went over there for some postgraduate work in 1927. It was splendid. Then as the cold, clammy hand of government began to push down upon the scientists and technical men in Germany, scientific training went out the window. I know what happened there because when I went back in the late thirties there was no more good technical and scientific training being given in Germany, Hungary, Poland, and Czechoslovakia.

I do endorse the principles of the measure, but there seems to be many loopholes in the purchase of land, the possibilities of leaks of secrets to foreign countries, the huge political agency duplicating what is already being done.

We are spending something over a billion dollars in a number of research programs in the United States. Our universities and private groups all over the United States—free men with free minds have made progress which we ought to hold up and point to with pride. Free enterprise unfettered by government regulations have produced tools of production which has made this ratio great. The thing that worries me is when you get the Federal Government in this picture subsidizing universities and scholarships and when the Federal Government reaches out and takes the taxpayers' dollars away from him, in the natural course of events when that dollar is handed back, it is with the iron fist of the dictator. It has always been so and it is so today, and it could be so under this bill. Therefore, I feel we ought to leave our free men with free minds with as little government regulation as possible to yet them proceed in developing the scientific and technical knowledge that we have in the world. Great progress has been made. Greater progress has been made in the treatment of medical problems than in any other nation. Frankly I have been concerned how long we as a people, if we continue on the road toward nationalization, step by step, of every little industry that we have, how long are we, as a free people, going to be able to lead our lives as we see fit, under the moderate restraints of the Constitution, or are we going to adopt that theory which says that the Government after all, knows best and will take care of us from the cradle to the grave?

We must leave scientific minds free to bring further blessing to mankind. If minds are shackled by regulations then progress in science stops.

I hope the legislation is amended so I can support what seems to be a step

in the right direction—without amendments to protect our scientific progress—I will vote against the measure.

Mr. BIEMILLER. Mr. Chairman, I rise in opposition to the amendment.

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. BIEMILLER. I yield.

Mr. PRIEST. I ask unanimous consent, Mr. Chairman, that all debate on the pending amendment and amendments thereto close in 5 minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

Mr. BIEMILLER. Mr. Chairman, I wish to speak briefly for the committee members on this side of the aisle in opposition to the amendment offered by the gentleman from New York [Mr. WADSWORTH]. We agree heartily with the expressions of the distinguished gentleman from Massachusetts [Mr. HESLTON]. We believe he has brought important information to the committee in regard to the attitude of the National Academy of Science on the maintenance of an official scientific roster.

In addition to that, we would like to call attention to the fact that there is already in existence a Government roster of scientific personnel, a roster that was started during the war by OSRD and is now being continued by the United States Employment Service, which is a part of the Department of Labor.

Section (i) on page 19 transfers that roster from the Department of Labor to the National Science Foundation. I think that is an eminently desirable provision. We hope it will prevail and that the power granted the National Science Foundation on page 3 will be continued.

Mr. WADSWORTH. Mr. Chairman, will the gentleman yield?

Mr. BIEMILLER. I yield.

Mr. WADSWORTH. I may say to the gentleman it is a surprise to me to hear the announcement that the National Academy of Science cannot afford to do this work. I had heard to the contrary from other members of that organization. But assuming that that statement is correct, and the National Academy of Science has not enough money to supply a complete list, would it not be within the power of this proposed Foundation to give it a little money and to still keep the formation of this list out of Government hands?

Mr. BIEMILLER. I would assume that the National Science Foundation, which will have on its board of directors eminent scientists from all parts of the country, would certainly want to cooperate in every reasonable, feasible manner with the National Academy of Science. I think such will be the case. But I repeat, as I said a moment ago, there is already in existence a Government roster. It is very desirable that that roster be transferred to the National Science Foundation and that the National Science Foundation use its good judgment in maintaining the proper roster in the future, to make sure that the United States has a complete catalog of available scientific personnel in the country.

Mr. Chairman, I yield back the remainder of my time.

The CHAIRMAN. The question is on the amendment offered by the gentleman from New York [Mr. WADSWORTH].

The question was taken; and on a division (demanded by Mr. JENNINGS) there were—ayes 44, noes 66.

So the amendment was rejected.

Mr. CASE of South Dakota. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. CASE of South Dakota: On page 12, line 18, after the word "and" insert " , with approval of the Secretary of Defense."

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. CASE of South Dakota. I yield.

Mr. PRIEST. May I say to the gentleman from South Dakota that we discussed this very briefly in an interchange yesterday, both the gentlemen from California [Mr. HINSHAW] and I. I am willing to accept the amendment, and I believe the other side of the Committee is willing to accept the amendment.

Mr. WADSWORTH. Mr. Chairman, will the gentleman yield that I may propound a question and proceed for a minute or two if the gentleman will let me use some of his time?

Mr. CASE of South Dakota. I would be glad to have the gentleman use some of my time but I should like to have my amendment voted upon before I lose the floor.

The CHAIRMAN. When the gentleman yields the floor the vote will be taken.

Mr. CASE of South Dakota. Under the circumstances, Mr. Chairman, I prefer not to yield.

The CHAIRMAN. The question is on the amendment offered by the gentleman from South Dakota [Mr. CASE].

The amendment was agreed to.

Mr. WADSWORTH. Mr. Chairman, I move to strike out the last word and do so for the purpose not of detaining the Committee unduly, but to ask if it would not be well for the proponents of this bill to describe what is in the mind of the committee or what this bill contemplates in the paragraph beginning in line 13 of page 12, and reading:

The Foundation is authorized to enter into contracts or other arrangements or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific-research activities and such scientific-research activities in connection with matters relating to the national defense.

It goes on to state:

Such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes—

And I understand that this last section 3709 refers to the matter of competitive bidding.

What is the purpose of this section in that it authorizes American money, as I read it, to be expended with foreign governments under contract or by individuals of the United States?

Mr. PRIEST. Mr. Chairman, I may say that the purpose of this particular provision is to authorize the Foundation,

if such circumstances should develop, to enter into negotiations and contracts with a foreign nation for certain work that might be highly restrictive in nature and secret. That, frankly, is the purpose of that provision in the bill. It is the sort of thing that we do not usually discuss too vocally, but I do not mind saying that that is the purpose of the language in the bill, that should the circumstance require it an agreement may be entered into with a foreign nation to carry on some research of a restricted nature.

Mr. WADSWORTH. But this goes a great deal further than that and provides that an individual in the United States may enter into a contract with a foreign government. It is a rather extraordinary provision, Mr. Chairman.

Mr. PRIEST. Only after approval by the Secretary of State. I believe the gentleman will find restrictive language on page 15 beginning in line 20:

(b) (1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c), and the authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only after consultation—

And I believe we have amended that to read "approval"—

with the approval of the Secretary of State.

Mr. WADSWORTH. Mr. Chairman, would not the gentleman think it wise to strike out the word "individuals"?

Mr. PRIEST. The committee did not so think. The chairman of the subcommittee does not so believe in view of the purpose of the language in the bill. I certainly respect a great deal the opinion of the gentleman from New York, but on this particular point I feel that the language in the bill is proper and should remain as it is.

Mr. WADSWORTH. In my humble opinion, we are advancing on risky ground:

Any organization or any individual of the United States once approved by the Foundation may enter into a contract with a foreign government.

Mr. FULTON. Mr. Chairman, will the gentleman yield?

Mr. WADSWORTH. I yield to the gentleman from Pennsylvania.

Mr. FULTON. Under the point 4 program, which was introduced by the gentleman from West Virginia [Mr. KEE], I would like to ask the chairman of the committee this question: There is section 5 which states:

The President is authorized to plan, undertake, administer, and execute bilateral technical cooperation programs carried on by any United States Government agency, and in so doing to—

(a) Coordinate and direct existing and new technical operation programs.

In relation to the question of the gentleman from New York, does not this very act cut across that provision in the point 4 program?

The CHAIRMAN. The time of the gentleman from New York has expired.

Mr. JAVITS. Mr. Chairman, I move to strike out the last word and I ask unanimous consent to speak out of order.

The CHAIRMAN. Is there objection to the request of the gentleman from New York?

There was no objection.

Mr. JAVITS asked and was given permission to revise and extend his remarks.)

Mr. JAVITS. Mr. Chairman, in a speech buried in the CONGRESSIONAL RECORD on page A1057 in the Appendix, of February 13, 1950, the gentleman from Mississippi [Mr. RANKIN] made certain statements which have such importance as a lesson for the rest of us and for the country that I call them to the attention of the House. He spoke of "Yiddish Communism versus Christian Civilization" and—I continue to quote:

Our Yiddish Solicitor General has taken it upon himself to go into the Supreme Court and misrepresent the American people by filing a brief in the Henderson case, for the purpose of trying to wipe out all segregation, and destroy our separate schools throughout the country.

He continued:

I understand that every member of the Politburo around Stalin is either Yiddish or married to one, and that includes Stalin himself.

The Russian desk of the State Department informs me that of the 12 members of the Politburo, only 1 is Jewish. He is Kaganovich. The State Department informs me that it is impossible for them to find out anything about the wives of the members, as they do not mix socially. However, they said, there is a rumor—unproven—that Stalin's third wife is Kaganovich's sister.

I call this matter to the House's attention because whether or not the rules would permit the striking out of such material defaming the people of a great faith I do not intend to ask that they be stricken. On the contrary, I believe they should remain in the Record as a permanent memorial on two points, critical to the national security of our country about which this same gentleman so often speaks, but which it is my conviction he most seriously jeopardizes. This is first—that it can happen here—that our constitutional democracy is not free from the dangerous propaganda technique, popularized by Hitler, Goebbels, and Stalin, of the sweeping lie constantly reiterated which in a moment of a weakness or national frustration our people might seize on to overturn all the gains of constitutionalism and human decency which have endured so magnificently throughout the life of our Nation and which we are determined to preserve forever.

My second reason for speaking is that I have noted that when the same gentleman who uttered these words utters others of the same character, Members often laugh with indulgence or amusement as if to say, "Isn't that picturesque." It is high time we realized the grim realities involved and the awful hurt that can be inflicted by these words upon a great body of fine American citizens who have contributed so enormously—and I shall not repeat the history of the achievements of Americans of the Jewish faith from Haym Solomon to David Lilienthal as practi-

cally every one of the Members knows of them not only from history but from his personal experience—to our national life. I believe rather that these words should remain of record as a constant memorial to the danger which can threaten our essential freedom and domestic peace generally. When we see hatred in action it is not a laughing matter.

I believe the Members will know that it is a very trying ordeal for me to take the floor under circumstances such as these. It would be so much easier to say nothing and to justify it by the unwillingness to repeat the charges in the course of refuting them. But this would be far more a disservice to our country than to Americans of Jewish faith. Let me make it crystal clear that the surest guaranty of the rights of all minorities in our country is the very white Christian majority which the gentleman from Mississippi refers to so often, and that the minorities have complete and permanent faith in the devotion to the great ideals of the constitution of this majority. For Americans of my faith that seek fellowship and brotherhood, recognize that ours is the greatest example of government where all citizens have the capability of equality of opportunity and rights of any in recorded history, and are convinced that the noblest and most successful development of our country is the greatest future there can be for them.

Mr. CASE of New Jersey. Mr. Chairman, will the gentleman yield?

Mr. JAVITS. I yield to the gentleman from New Jersey.

Mr. CASE of New Jersey. I agree completely with the statements the gentleman has made. I am sure that every Member of this House, other than the gentleman from Mississippi, will agree also. And I think it terribly important that the country as a whole and the world should know that in this sad and sordid departure the gentleman from Mississippi stands alone.

The CHAIRMAN. The time of the gentleman from New York has expired.

Mr. FULTON. Mr. Chairman, I heartily join with the gentleman from New York [Mr. JAVITS] in his sincere plea for brotherhood and fellowship among people of all faiths. No group should be separated from the rest of Americans because of race, creed, or color. The gentleman from New York [Mr. JAVITS] properly emphasizes what we all know to be true: That benefit to our country is at once the benefit to all of our people, including every minority.

From my own knowledge, the Jewish people of our country have made their full contribution to the best phases of our national development, our cultural heritage, and our security and defense.

[Mr. RANKIN addressed the Committee. His remarks will appear hereafter in the Appendix.]

Mr. HESELTON. Mr. Chairman, I move to strike out the last word.

Mr. Chairman, once again the gentleman from New York has raised a very pertinent question as to the phraseology and the meaning of the section which he discussed. He wanted to know and I

think all Members have a right to know why we are providing for doing business in other countries. I am sure I am not disclosing any security information when I read to you from volume V of the President's Scientific Research Board report dated October 18, 1947, as follows:

TRAVELING FELLOWSHIPS

Several foundations and the United States Department of State have programs of traveling fellowships under which scholars from this country and abroad are sent to other countries for observation and study. The holders of traveling fellowships appropriately spend most of their time visiting research institutions and talking with leading investigators. They seldom spend more than a very short time in investigation in a single laboratory. The promotion of international understanding and the exchange of scientific information are as important as the specific training obtained under such fellowships.

That, in a general way, explains what the Committee is trying to get at. But, more particularly, let me read to you what is reported with reference to the Navy Department:

NAVAL MEDICAL RESEARCH UNIT NO. 3 (CAIRO, EGYPT)

This unit passed to the Navy from the United States Typhus Commission in January 1946. It is engaged in research in local medical problems and diseases of military importance in the Middle East, Africa, Europe, and India. The present program consists of (a) comparative studies of the bacteriology, biochemistry, and physiology of febrile diseases, and (b) preventive medicine studies of the entomology, epidemiology, and mamology of the diseases of the Middle East, Africa, Europe, and India. Specific projects are in collaboration with the Egyptian Government, the United States Public Health Service, the War Department, and Department of Agriculture.

I wish I had had the time to locate other illustrations while the gentleman from New York [Mr. WADSWORTH] was speaking, but I think that may offer at least two specific illustrations of what we want to provide for.

Mr. CHURCH. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. CHURCH: On page 2, line 18, after "contracts" strike out "or other arrangements (including grants, loans, and other forms of assistance)" ending on line 19.

Mr. CHURCH. Mr. Chairman, the obvious purpose of this amendment is to narrow the authority of the National Science Foundation proposed to be established by this bill.

I call your attention to the broad powers which the Foundation will have under subsection (3) of section 3 (a). The authority is virtually unlimited. Under the terms of this subsection the Foundation can enter into any kind of an arrangement it wishes, by contract, by loans, or even by out-and-out grants of money for scientific research.

There is no limitation as to the amount of money that may be expended by way of loans or by way of contract commitments. Nor is there any limitation as to the kind of research. The only limitation is that the research be "in connection with matters relating to the national defense."

But, Mr. Chairman, what is a matter relating to national defense? That can mean almost anything. It can mean food. It can mean clothing. It can mean medicine. At this very moment our armed services have research contracts with various institutions in these fields which, to the average layman, and I think to most of us, are far removed from national defense.

Research in connection with an improved gun is a matter relating to national defense. No one can question that. But the armed services do not stop there. They point out that the tractor or carriage is essential for the mobility and effectiveness of the gun. Accordingly, they justify Federal assistance for research in this field. As the carriage is important to the gun, the wheels are important to the carriage. Accordingly, they justify Federal expenditures for research in how to improve the wheels as a matter relating to national defense, as well as research on how to improve the axles. And what about the grease or oil that lubricates the axle wheel?

The point I seek to emphasize, Mr. Chairman, is that there is no limitation whatever in what constitutes a matter relating to national defense. The Foundation would have the authority to make unlimited expenditures, if not by direct grants, at least in the form of loans, in practically every field of endeavor. Businesses could be practically set up to compete with existing businesses.

I have no objection whatever to the Federal Government entering into experimental contracts, such as were entered into during the war, for the production of a better submarine or perhaps a better bombsight. Those are contracts for products which have no commercial market. They are for something which industry does not normally produce.

But I strenuously object to giving this new Government agency this broad authority to enter into any kind of an arrangement it may wish for research in unlimited fields. This is something which is now being well done by business itself.

In 1947 industry itself spent around \$10,000,000 on basic research, and the amount spent on applied research, in finding new products or improved ones, it has spent many, many times that amount. The high standard of living you and I enjoy is the result of this free competitive enterprise system. We now propose by this bill to compel industry to discontinue its own efforts and look to the Federal Government.

The fundamental question which this bill raises is whether American science must become dependent upon a Government agency for its support, or whether it can look to support from private funds. It is my deep conviction that American science can best be advanced by encouraging through reduced taxes the expenditures of funds on research than by establishing another Government agency to distribute money collected from the people in taxes.

It must be recognized that any organization that has the authority to expend money, to give or withhold, can exercise considerable control over the activities of the individuals or organizations who receive the benefit or the grant or loan. It must also be recognized that it is human nature for people to avoid spending money for some purpose if it can get the Government to do it. And that is particularly true when the available funds in the hands of the people are limited by the burden of taxes.

I hope my amendment will be adopted. It will at least put some limitation on what can be done and how much can be spent under the guise of national defense. It will at least confine the authority to contractual arrangements rather than allowing the Foundation to make loans or some other arrangements, without limitation as to the amount and purpose, and thereby place an additional burden on the people who will have to bear the cost of all this.

Mr. JONAS. Mr. Chairman, will the gentleman yield?

Mr. CHURCH. I yield to the gentleman from Illinois.

Mr. JONAS. No doubt the gentleman from Illinois is familiar with the section of the bill which provides for a board of 24 members. Does the gentleman understand that the 24 members are to be eminently qualified, scholarly, learned, and distinguished scientists? If they are, then are they working for \$25 a day and expenses? Does the gentleman know any scientist of any eminence and distinction, any learned and scholarly scientist who can afford to work for \$25 a day?

Mr. CHURCH. I agree with the gentleman. I do not. Let me say that the scientists in America become eminent because they are free from this kind of control by a foundation or control by the Government.

Mr. JONAS. Mr. Chairman, will the gentleman yield further?

Mr. CHURCH. I yield.

Mr. JONAS. Is the gentleman familiar with that part of the bill which says that of the 24, 9 shall constitute an executive committee and that the executive committee shall be the means through which business shall be done. Will not that stamp the other 15 as mere stuffed shirts and strawmen under that sort of a set-up?

Mr. CHURCH. The gentleman is correct.

The CHAIRMAN. The time of the gentleman from Illinois has expired.

Mr. CHURCH. Mr. Chairman, I ask unanimous consent to proceed for four additional minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Illinois?

There was no objection.

Mr. WAGNER. Mr. Chairman, will the gentleman yield?

Mr. CHURCH. I yield.

Mr. WAGNER. If this amendment is adopted will the gentleman vote for this measure?

Mr. CHURCH. No, I want to be perfectly frank, because there are other

broad provisions in the bill that the gentleman from New York and others have called attention to, under which this Foundation can compete with industries in your district under contracts without consideration. The bill goes too far in many of its provisions.

Mr. WAGNER. Is that the only objection the gentleman has to the measure?

Mr. CHURCH. Oh, no. There are a number of objections which have been pointed out in the debate.

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. CHURCH. Yes.

Mr. PRIEST. The gentleman will recognize that the word "basic" is omitted only in connection with research for the national defense, at the request and approval of the Secretary of Defense. We feel that if this country faces danger we should utilize every research agency in the country to protect it. It applies only in that case and with that restriction. These are basic only except as it relates to national defense.

Mr. CHURCH. Then how far will you go in the matter relating to national defense? Does not food have to do with that? Does not medicine have to do with that? Does not clothing have to do with that? Does not almost every product that business is struggling to make under the competitive system have to do with or in some measure relate to national defense? You are going to give some bureaucracy the power to determine it and determine it in peacetime.

Mr. PRIEST. In these far-flung battlefields around the world I am ready to say that everything relates to that which this Nation has.

The CHAIRMAN. The time of the gentleman from Illinois [Mr. CHURCH] has expired.

Mr. WOLVERTON. Mr. Chairman, I rise in opposition to the amendment.

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. WOLVERTON. I yield.

Mr. PRIEST. I ask unanimous consent, Mr. Chairman, that all debate on the Church amendment close in 5 minutes.

Mr. WHITE of Idaho. Mr. Chairman, I object to that.

Mr. PRIEST. Mr. Chairman, I move that all debate on the Church amendment close in 5 minutes.

The motion was agreed to.

Mr. WOLVERTON. Mr. Chairman, I rise in opposition to the amendment in order that I may have an opportunity to bring to the attention of the committee some facts that seem to me to have been entirely overlooked during this debate.

As far as the amendment offered by the gentleman from Illinois is concerned, I do not consider it of sufficient importance to even take the time to reply to the argument he has made.

In the first place, I want to call the attention of the House to the fact that yesterday and today Members of this House, with sincerity, have stood in the well of this House and offered amendments. The bill now before us is almost word for word the same as the several other

bills that have been before the House for the last 4 years on the same subject. Never once have I heard any Member who is now offering amendments come before the committee and give our committee the benefit of his thought when the committee was seeking to draw legislation that would be appropriate and effective.

I call attention to the fact that this bill is not a partisan bill; this bill is the same in character, practically word for word—and I hope my friends on the left of the aisle will realize what I am saying—as the bill that I introduced, the committee approved and the House passed in the Eightieth Congress. That was the Republican Congress. It was also passed by a Republican Senate. If the bill was good then it is good now. It was vetoed by the President for reasons that he considered sufficient and which at the time I would have been perfectly willing to accede to in order that we might have the legislation.

Mr. AUGUST H. ANDRESEN. Mr. Chairman, will the gentleman yield?

Mr. WOLVERTON. I will yield only for a brief question; my time is very limited.

Mr. AUGUST H. ANDRESEN. It seems to me that the situation was different in the Eightieth Congress than it is today. In the Eightieth Congress we balanced the budget, paid off on the national debt, left a surplus, and reduced taxes. Now we will have a deficit in the Eighty-first Congress of nearly \$10,000,000,000. It occurs to me that the situation is entirely changed. This may be a very good project but it is a new project; and if we are going to balance the budget again we will have to stop spending money and wait until the country can afford it.

Mr. WOLVERTON. I wish that at some time or other some of these individuals who come before the House and make arguments such as has just been made would realize the inconsistency of those arguments. There are times, Mr. Chairman, that we cannot decide a question just on the basis of the dollars and cents involved; there are times when we must recognize that there are some things more valuable than dollars and cents. This bill contains a limitation of appropriation of \$500,000 this year and at no time to exceed \$15,000,000. That is a small amount to pay for the security and helpfulness to our citizens that this bill will provide.

I appreciate the sincerity of the gentleman from Minnesota [Mr. AUGUST H. ANDRESEN], but I am not in accord with application of the principles he mentions to this particular bill. This bill is a necessity in this scientific age. As I have previously said there are times when existing circumstances justify us in expenditures for worth-while programs. I believe this to be such. I am sorry the gentleman, for whose sincerity I have the greatest respect, does not agree with me.

There is no more outstanding advocate of economy and efficiency in Government than former President Hoover, the head of the Commission that so recently made a report to us on reorganization of executive departments. Before reading the Hoover Committee's report let me

say that the policy statement of the Republican Party adopted just a few days ago had this to say:

The achievement of efficiency and economy in Government, especially by adoption of measures along the lines of the Hoover Report.

What did the Hoover report have to say about the necessity for an organization in Government such as this bill provides for a National Science Foundation? On pages 49 and 50 of the Hoover report, and I ask unanimous consent to insert the entire portion of the report in my remarks, it is said:

The Federal Government is now engaged in a wide range of research activities involving tremendous expenditures of funds.

The CHAIRMAN. The time of the gentleman from New Jersey has expired.

Mr. WOLVERTON. Mr. Chairman, I ask unanimous consent that I may proceed for two additional minutes.

Mr. HOFFMAN of Michigan. Mr. Chairman, reserving the right to object—I do not understand the situation. I wonder why the gentleman on the other side a while ago called attention to the rule limiting the time? I am not attempting to limit the gentleman's time; I hope he gets his time.

Mr. WOLVERTON. This House was liberal enough to give the gentleman from Illinois four additional minutes to speak on an inconsequential amendment, and it would seem to me that the ranking Republican member of the committee ought to have at least two additional minutes.

Mr. HOFFMAN of Michigan. The gentleman understands I am not objecting but I am calling their attention to an inconsistency.

The CHAIRMAN. Is there objection to the request of the gentleman from New Jersey?

There was no objection.

Mr. CHURCH. Mr. Chairman, the gentleman referred to my inconsequential amendment. Does the gentleman believe in my sincerity?

Mr. WOLVERTON. I have absolute confidence in the gentleman's sincerity and honesty of purpose even though I do not agree with his judgment in this particular instance. There is no Member of the House for whose sincerity I have a higher regard.

Mr. CHURCH. Nor do I agree with the gentleman's.

Mr. WOLVERTON. Mr. Chairman, finishing the reading of the report of the Hoover Commission, it goes on to say:

The Federal Government is now engaged in a wide range of research activities involving tremendous expenditures of funds. In 1947, total Federal expenditures for research excluding atomic energy amounted to \$625,000,000. This Commission, while recognizing that effective planning and coordination of research undertaken is of major importance, has not endeavored to make an independent study of organization for research in the Federal Government. This decision was based primarily on a realization that the main aspect of the problem had been recently investigated and reported by the President's Scientific Research Board. Nevertheless, the Commission does wish to call attention to the major issues in this field,

pointing out progress which has already been achieved and further steps that should be taken.

The report of the Scientific Research Board makes it plain that a satisfactory correlated research program for the National Government has not yet been realized. To be effective, an organization which will facilitate the development of research policy for the Government as a whole must have roots in each department with major responsibilities. Every Federal agency with an extensive research program should have a staff organization reporting to the agency head for developing general research policy. A number of such staff groups are now in operation. These groups include the Agricultural Research Administration, the Office of Naval Research, the Office of Research Planning, and Public Health Service, and Research and Development Division of the Department of the Army's General Staff.

While the authority, responsibility, and organizational status of these groups vary widely, they do have a number of common basic characteristics. Each is responsible to the agency head; each maintains records of research projects conducted by all units of the agency served; each advises the agency head on such matters of research policy as the fields of which research should be expanded or contracted and whether research should be undertaken directly by the Federal Government or by non-Federal agencies under a grant of contract, and similar matters.

Effort along these lines within individual agencies is not enough. There is need for an organization to facilitate the development of research policy for the Federal Government as a whole. That was recognized in a report of the President's Scientific Research Board. That Board recommended as a first step the establishment of an interdepartmental committee on scientific research and development. Such a committee was created by Executive order in December of 1947. It was directed to further the most effective administration of scientific research and development activities in the Federal Government and was authorized to submit recommendations on research policy and administration direct to the President.

The full potentialities of this committee have not been realized, since its members have not as yet attacked major problems of research policy for the Federal Government as a whole. This may be due in part to lack of staff and funds. An interdepartmental committee working alone and without staff is seriously limited in achieving adequate coordination and developing over-all plans to completion. This points to the need for a National Science Foundation. The major functions of such a Foundation should be (a) to examine the total scientific research efforts of the Nation, to assess the proper role of the Federal Government in this effort, to evaluate the division of research effort among the scientific disciplines and among fields of applied research, and to evaluate the key factors that impede the development of an effective national research effort. Based upon its investigation, it should advise the President as to the measures necessary to establish a sound scientific research program for the Nation.

In addition, the Foundation should be given appropriations for the support of basic research and for research fellowships in fields not adequately covered by the research grants and fellowships of other Federal Government agencies. The Foundation might administer the grant and fellowship program for which it has received funds, or delegate administration to other Federal agencies.

In addition, it should advise the President as to the proper balance among research grants and fellowship programs supported by appropriations given to other Federal

agencies, and as to major policies that should govern the administration of these programs.

The National Science Foundation should consider most carefully the manner in which the national policies with respect to scientific research are related to broader questions of educational policy. At present, grants for research purposes are being made on a hit-and-miss basis, making the award of research grants in effect a new form of patronage. The awarding of research grants must be put on a more systematic basis, with due recognition given to their impact on the educational programs of our higher institutions of learning.

Mr. Chairman, that is from the Hoover Commission report. In my opinion it is sound. We should adopt the bill now before us. It will carry out the objectives set forth in the Hoover Commission Report. I believe it will eventually save money. Certainly, I hope so.

The CHAIRMAN. The question is on the amendment offered by the gentleman from Illinois [Mr. Church].

Mr. RANKIN. Mr. Chairman, I ask unanimous consent that the amendment be reread.

The CHAIRMAN. Is there objection to the request of the gentleman from Mississippi?

There was no objection.

The Clerk reread the Church amendment.

The CHAIRMAN. The question is on the amendment.

The amendment was rejected.

Mr. PRIEST. Mr. Chairman, I ask unanimous consent that all debate on the bill and all amendments thereto close in 20 minutes.

The CHAIRMAN. Is there objection to the request of the gentleman from Tennessee?

Mr. HOFFMAN of Michigan. Mr. Chairman, reserving the right to object, I have an amendment.

The regular order was demanded.

Mr. HOFFMAN of Michigan. Mr. Chairman, I object.

Mr. PRIEST. Mr. Chairman, I move that all debate on the bill and all amendments thereto close in 25 minutes.

Mr. HOFFMAN of Michigan. Mr. Chairman, I offer a preferential motion.

The CHAIRMAN. There is a preferential motion now pending.

The question is on the motion offered by the gentleman from Tennessee [Mr. Priest].

The motion was agreed to.

Mr. HOFFMAN of Michigan. Mr. Chairman, I offer a preferential motion.

The Clerk read as follows:

Mr. HOFFMAN of Michigan moves that the Committee do now rise and report the bill back to the House with the recommendation that the enacting clause be stricken.

(Mr. HOFFMAN of Michigan asked and was given permission to revise and extend his remarks.)

Mr. HOFFMAN of Michigan. Mr. Chairman, I make this motion, not that I hope it will be adopted, but for two reasons, first, because I am opposed to the bill and because I want the time. It has been impossible to obtain recognition to offer an amendment. The gentleman from New Jersey [Mr. Wolverton] seemed to be quite exercised because I called attention to the inconsistency of

the gentleman, the very fine, distinguished, lovable, and admirable gentleman from Tennessee [Mr. Priest] who is in charge of the debate, in objecting a moment ago to some extensions of time, calling for the enforcement of the rule which had been adopted limiting debate. But when the same question just came up while the gentleman from New Jersey [Mr. Wolverton] was speaking and the argument was along the line he approved he did not call attention to the fact debate had been limited. All I was trying to do was to call attention to the inconsistency. I was not objecting to the extension of time of the gentleman from New Jersey [Mr. Wolverton]. I do not care if the gentleman talks for an hour. I would listen to him, but I wanted to point to this inconsistency on the majority side. When you talk so much about civil rights, equal privileges, and all that, acts should be compared with words. The gentleman from New Jersey [Mr. Wolverton] was talking about some of us on the Republican side who did not go along with the platform on FEPC. To me a platform is nothing more or less than a collection of promises to garner votes. As far as I can remember back, no platform has ever been adhered to when it came in conflict with party policy after the election. So, that argument about what is in the Republican national platform does not mean too much to me. Mr. Roosevelt was re-elected three times after he repudiated the platform on which he was first elected. That platform promised a 25 percent reduction in Federal expenditures. In 15 years no attempt was ever made to keep that promise.

Another thing, every day we hear that we must do something, we must create a new agency, a new commission, we must spend some more money. What this country needs is relief from excessive Government expenditures and new socialistic legislation. I have been accused many times of being an obstructionist, being against everything, just because I voted against an appropriation or some unsound unneeded legislation. Bless your hearts. When I voted against an appropriation I was voting for economy and efficiency; I was trying to make the administration live within the income that it has or can get. The Government should do the same we all try to do—spend no more than we earn. I recall many, many things that we have done as Republicans which have proved to be wrong. I recall this bipartisan foreign policy that the gentleman from New Jersey [Mr. Wolverton] voted for all along. Now almost everyone admits that it has been a rank failure. If in all the world we have a nation which is friendly—which will not desert us at the first opportunity when it is to its advantage, I cannot name it. I recall the Marshall plan. We voted millions, yes, billions of dollars for foreign aid, and where are we? Have we the good will of any nation in the world? No; we have not. I recall that a Member over in the other body, the head of the great Foreign Affairs Committee over there, is quoted this morning as saying he has gone along with ECA; it was wonderful

to spend billions of dollars, but if England continued to discriminate against Texas oil, that was something else again; none of that for Texas or for him. I recall that the gentleman from Indiana [Mr. Jacobs] on the Committee on Labor, was dead against the Taft-Hartley Act; he wanted none of it.

The gentleman not so very long ago wanted the Taft-Hartley Act used down in his district so that his constituents could get some coal down there; oh, yes, that was a different story when his people were in need of coal. On page 3, of this bill, down at the bottom, subsection 5, it is provided that this scientific information shall be gathered and disseminated to—and mark this—foreign nations. On the front page of the paper this afternoon is a statement that this scientist, Dr. Fuchs, over there in London pled guilty, and he got 14 years. For doing what? Giving those fellows scientific information. Now, we pave the way to appropriate several millions of dollars, maybe more, to collect this information, and pass it along. Where is the good sense in that? When the next scientist peddles information to the enemy will he plead the passage of this in bar if he be prosecuted?

Now, to save time, I ask unanimous consent to withdraw my motion.

Mr. CASE of South Dakota. Mr. Chairman, I object, and claim time in opposition to the motion.

Mr. HINSHAW. Mr. Chairman, I rise in opposition to the motion.

Mr. HARRIS. Mr. Chairman, a point of order.

The CHAIRMAN. The gentleman will state it.

Mr. HARRIS. This is a preferential motion to strike out the enacting clause, and I believe a committee member is entitled to recognition.

The CHAIRMAN. The gentleman is correct. The Chair recognizes the gentleman from California [Mr. Hinshaw].

Mr. CASE of South Dakota. Mr. Chairman, a parliamentary inquiry.

The CHAIRMAN. The gentleman will state it.

Mr. CASE of South Dakota. The gentleman from South Dakota was recognized, was he not?

The CHAIRMAN. The gentleman was recognized by the Chair to make an objection, but not to speak.

Mr. HINSHAW. Mr. Chairman, if the gentleman from South Dakota desires time, I will be glad to yield to him for a minute or so.

Mr. CASE of South Dakota. Mr. Chairman, I would like to see the bill passed. I would like to see it get in shape that it could be supported wholeheartedly. There is room for coordinating our research activities. However, a thing happened within the past 24 hours that does raise a serious question about one provision here, and I think some attention should be drawn to it. On page 15 appears language which refers to section 11, about which questions have been raised.

This morning the radio and the press report that a man who was an enemy agent, who was a known Communist, was admitted to very confidential secrets in

the United States. The confession of Fuchs brings out the fact that here was a man who was a known Communist and an enemy agent who was getting secrets and passing them on.

Mr. HINSHAW. I can explain to the gentleman the answer to the question I know he has in mind.

Mr. CASE of South Dakota. The language on page 15 provides that the authority to enter into contracts with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c)—that is the one to which attention has been drawn—shall be exercised only after consultation with the Secretary of State.

Mr. PRIEST. That has been amended to require the approval of the Secretary of State.

Mr. CASE of South Dakota. But it is limited to the Secretary of State. The question I raise is, Should we not go a bit further there and require consultation also with the Director of the Central Intelligence Agency or some security activity?

Mr. HINSHAW. I am delighted to yield to the gentleman, but he has used most of my time.

Mr. CASE of South Dakota. I hope the gentleman will address himself to that.

Mr. HINSHAW. I will do that gladly, but first I want to point out to the House that this bill is one of those bills that are in line with the recommendations of the Hoover Commission report. This is a situation where the bill itself will create considerable economy and efficiency through the correlation of the research projects in all the agencies of the Government. It is directly in line with the Hoover Commission report, which so many of the gentlemen have said they want to support.

In specific answer to the gentleman from South Dakota, the gentleman from Massachusetts [Mr. HESELTON] was on the floor just a few minutes ago—perhaps the gentleman from South Dakota did not hear him—and gave a very fine explanation of why that language is there. As far as Mr. Fuchs is concerned, he was sent here by the British Government, as I know, being a member of the Joint Committee on Atomic Energy, and was vouched for by the British Government in connection with the atomic energy project. The atomic energy project is eliminated from this bill and has nothing to do with it at all.

Mr. CASE of South Dakota. I may say to the gentleman that recently at some hearings of the National Advisory Committee for Aeronautics it was brought out that we are now exchanging scientific information with certain nations, which I shall not name because we were asked to keep it off the record. In view of the fact that the Secretary of State is the only person to whom we look for clearance under the bill, and he is concerned only with international relations and foreign policy objectives and certain other things that I shall not bring into this discussion, I question whether we ought to permit the contracts to be made with foreign organizations and individuals on

the clearance of the Secretary of State alone.

Mr. HINSHAW. I hope the gentleman will read the story that the gentleman from Massachusetts [Mr. HESELTON] has here. I am sure he will be not only enlightened but satisfied with the story.

Mr. Chairman, I rose in opposition to the motion offered by the gentleman from Michigan. I hope his motion will be voted down.

The CHAIRMAN. The question is on the preferential motion of the gentleman from Michigan [Mr. HOFFMAN].

The motion was rejected.

Mr. FLOOD. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. FLOOD: On page 20, after line 20, insert a new paragraph as follows:

"(m) No person a national of a foreign country shall be associated with the Foundation in any capacity whatsoever unless and until the Federal Bureau of Investigation, independent of any investigation made by the government of such person shall have investigated such person and reported to the Foundation that such person is not and has not at any time been a member of any organization that teaches or advocates the overthrow of the Government of the United States by force and violence."

Mr. FLOOD. Mr. Chairman, yesterday the committee adopted an amendment offered by the gentleman from Virginia [Mr. SMITH], which had to do with employees of the Foundation. This amendment is expressly directed at the Fuchs situation. There, Fuchs came to the United States but he was cleared only by the British and not by the FBI. This amendment will make it necessary that no mater from which foreign country these persons come they will have to be cleared by the FBI, and the report made to the Foundation. Had this amendment been law when Fuchs came to the United States the FBI would have checked him and would have prevented any incident from arising. The fact that Fuchs had been cleared by the British would not have mattered.

The CHAIRMAN. The question is on the amendment offered by the gentleman from Pennsylvania [Mr. FLOOD].

The amendment was agreed to.

Mr. CASE of South Dakota. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. CASE of South Dakota: On page 16, line 1, after "Secretary of State", insert "and the Director of Central Intelligence", and in line 3, after "foreign-policy objectives", insert "and security."

Mr. CASE of South Dakota. Mr. Chairman, this amendment directs itself to the question which I brought up before. It merely provides that in these contracts with organizations or individuals of foreign countries, in addition to getting clearance with the Secretary of State, this would require clearance with the director of Central Intelligence. It seems to me that is clearly in harmony with the best interests of the United States, and I can see no valid objection to the amendment.

Mr. BIEMILLER. Mr. Chairman, will the gentleman yield?

Mr. CASE of South Dakota. I yield.

Mr. BIEMILLER. I have always been under the impression that CIA was set up for a straight job of intelligence, as the word indicates, and that it was never intended to do any administrative work whatsoever. I doubt very seriously whether CIA itself would welcome the kind of administrative responsibility which the gentleman from South Dakota would endeavor to give it.

Mr. CASE of South Dakota. Let us not confuse the foreign intelligence with the administrative work of the FBI at home. The amendment already adopted is to take care of clearance of FBI for students or scientists in this country, but where you have contracts going into other countries it seems to me that we ought to have the Foundation get clearance from the Central Intelligence before they go to individuals and organizations in other countries. The FBI would not have that information. Only Central Intelligence would.

The CHAIRMAN. The time of the gentleman from South Dakota has expired.

Mr. PRIEST. Mr. Chairman, may I be recognized for a part of the time that has been allotted to me to say that I feel this amendment is very much out of order and it should not be adopted. I do not have the time to discuss it fully, but I feel it is a very inappropriate amendment and should be voted down.

Mr. McCORMACK. Mr. Chairman, will the gentleman yield?

Mr. PRIEST. I yield.

Mr. McCORMACK. I sat on the committee that drafted the bill in relation to the CIA. The CIA is a special committee. This will put it into administrative field, which would be dangerous. I know the gentleman has the best of intentions, but the amendment would be very harmful, not to this bill, but from the angle of bringing the CIA into a field that it would be dangerous to bring it into.

The CHAIRMAN. The time of the gentleman from Tennessee has expired.

The question is on the amendment offered by the gentleman from South Dakota [Mr. CASE].

The question was taken; and on a division (demanded by Mr. CASE of South Dakota), there were—ayes 50, noes 73. So the amendment was rejected.

Mr. KEATING. Mr. Chairman, I move to strike out the last word.

(Mr. KEATING asked and was given permission to revise and extend his remarks.)

Mr. KEATING. Mr. Chairman, after studying the report of the committee and hearing the debate on the issues involved and with the utmost respect for the views of those who differ, I have concluded to support this legislation.

The bill, as now amended, conforms to the recommendations of the Hoover Commission, which in its report recognized the need for and advocated the establishment of a National Science Foundation. It seems clear to me that this recommendation was sound.

Not only, however, will the interests of economy be promoted but also the national welfare, prosperity, and security will be furthered by the enactment

of this legislation. Our national pre-eminence in the field of applied research and technology should not blind us to the fact that until very recently we occupied a secondary position as regards basic research.

The remarkable American developmental work on the automobile, airplane, and radio should not obscure the truth that the fundamental discoveries underlying these developments were made in nineteenth-century Europe. Even the atomic bomb, so vital to our national defense, is an outgrowth of basic discoveries made in England, France, Germany, and Italy. In recent years the United States has made progress in pure science, but an examination of our national research efforts in university, industrial, and governmental laboratories reveals that around a billion dollars annually is being spent on applied research. However, such expenditures cannot reap the rich harvest they deserve unless new ideas are forthcoming to nourish and sustain new applications. Basic research is the source of new ideas.

Traditionally, a great deal of pure or basic science has been carried on at institutions of higher learning. In recent years, however, private support of universities has been sharply curtailed through the spending and taxing policies of the Federal Government. Our national security and progress make it essential that we find supplemental means of support for basic research.

In the future we cannot count, as we have in the past, on basic research performed in other countries and on the importation of outstanding scientists trained abroad. The ravages of World War II have been so extensive that Europe is bankrupt and in no position to carry on much of the basic research of the future which requires such complicated and expensive equipment. The United States can no longer be content to borrow its basic knowledge, but rather must make its own fundamental discoveries.

The cost of this program, limited by the commendable amendment of the gentleman from Arkansas to not to exceed \$15,000,000 annually is, of course, an important factor to which we cannot close our eyes. In the present state of the Federal purse, any measure involving an expenditure of public funds must be carefully and critically scrutinized. As I have pointed out, however, the Hoover Commission has urged the creation of the Foundation to promote both economy and efficiency. In addition, the figures envisioned in this bill for basic research are infinitesimal compared to the large sums being spent on applied research. If necessary, and certainly it is desirable from the standpoint of economy, I would be prepared to reduce the budget for applied research in various Government departments to the extent necessary to provide for this furtherance of pure science, since I have become completely convinced that it is essential that we make provision to replenish the basic research bank, not only for our prosperity and well-being as a nation, but, very possibly, for our very survival.

The passage of this measure will salvage a critical situation. It is imperative that it pass. My conscience does not permit a negative vote.

The CHAIRMAN. The Chair recognizes the gentleman from North Carolina [Mr. DURHAM].

Mr. DURHAM. Mr. Chairman, I hate to take the time of the Committee at this late hour. I am a little distressed at the turn of events on what should be a very sound approach to the problem, if we expect to continue what we call the abundant life in America.

Most of us realize that we have got about 94 elements to live off of in this world. Out of that comes a living for all of us. We have been dependent, ever since the Grecian period of culture, to a great extent, on the scientific minds of the world in creating articles of all types that we may use in our daily lives. America is still regarded as one of the countries which has an abundant supply of material for productive science, and that is the objective of this bill. It is of no use for us to fool ourselves.

We are living in a technological era and a period in which scientific research today is more important than it has ever been in the history of the world. All of my life has been spent under the sound of a college bell and I have observed from thousands of students at this institution that most of our young Americans today are eager for an education, but unfortunately here in this great land of ours, a very small percentage have qualified themselves with doctors degrees to carry on all of the basic fundamental and applied research programs that this land of ours offers. Most of our young men when they graduate from college return to our industrial plants or other vocations of life. The group that really needs help are those who take their masters and doctors degree, and I believe that this legislation is designed primarily for the graduates and doctors degree level. This group usually takes on family responsibilities at that age and find themselves with insufficient income to live a normal American life and still continue their studies. We can no longer be dependent on Europe as we have for the past several centuries for our scientific talent. It is true we have made considerable progress here in this country, but even today and at this hour, we have many scientists carrying on important work that came to our country because of the treatment they received from foreign lands, and I am hopeful that we may pass this bill and carry it into conference and remove some of the amendments that we have adopted here which, in my opinion, are detrimental to a program which we desire to have.

Yesterday, I offered an amendment on page 20, line 8, to strike out the word "atomic," and substitute the word "nuclear." This amendment was accepted.

I would like to make one further comment regarding the amendment. You will recall that I stated that it was not very clear from the Science Foundation bill whether the word "atomic" covers the new process of the hydrogen bomb. Unlike the Atomic Energy Act, the bill

does not contain any definition of atomic energy. My purpose in offering the amendment was to assure that the language in the Science Foundation bill was as broad as that contained in the Atomic Energy Act to cover the hydrogen bomb process.

(Mr. DURHAM asked and was given permission to revise and extend his remarks.)

The CHAIRMAN. The Chair recognizes the gentleman from Tennessee [Mr. JENNINGS].

Mr. JENNINGS. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. JENNINGS: On page 12, line 13, strike out subsection (c) as amended.

Mr. JENNINGS. Mr. Chairman, this subsection (c) grants the power of this agency to enter into a contract or authorize the entering into of a contract by any agency or individual in this country with any agency or any individual in a foreign country and with reference to the national defense. It is my deliberate opinion that we are surrendering a power here to an unknown agency to do some unknown thing which might wreck the whole future of this country. We have had one instance where Alger Hiss who sat by President Roosevelt's side at Yalta when the Yalta Agreement was entered into, and who sat at the head table at San Francisco when the United Nations Charter was formed, turned out to be a traitor. How do we know what manner of men, either at home or abroad, we are going to get to represent us in these negotiations? How do we know to whom we are committing the future safety and defense of this country?

Were any member of this House to go out and surrender the right to his security and the security of his family and everything he owned in the way of property to some unknown person, the wife of such a person would be fully warranted in employing a lawyer to take legal steps to have her husband committed to an insane asylum and to have a guardian appointed to handle her husband's property. The vast powers placed in the hands of this proposed Federal agency and its unknown cost to our people in their treasure and the blood of their sons and daughters staggers the human mind, and is filled with frightful consequences.

The CHAIRMAN. The time of the gentleman from Tennessee has expired.

(Mr. JENNINGS asked and was given permission to revise and extend his remarks.)

Mr. HESELTON. Mr. Chairman, may I be recognized for part of the time at my disposal?

The CHAIRMAN. The gentleman from Massachusetts is recognized.

Mr. HESELTON. Mr. Chairman, a few minutes ago I read to the committee something of the work the Navy is doing in Egypt. May I suggest that if we had had this information during the last war we would not have lost as many lives as we did from not knowing how to combat tengu fever and similar diseases. Medical Research Unit No. 3 at Cairo, Egypt, passed to the Navy from the United

States Typhus Commission in January of 1946. It is engaged in research in local medical problems and diseases of military importance in the Middle East, Africa, Europe, and India. Specific projects are in collaboration with the Egyptian Government, the United States Public Health Service, the War Department, and the Department of Agriculture.

Let us not tie our hands in trying to combat military diseases.

The CHAIRMAN. The question is on the amendment offered by the gentleman from Tennessee.

The amendment was rejected.

Mr. WADSWORTH. Mr. Chairman, I offer an amendment, and this will be my last on this bill.

The Clerk read as follows:

Amendment offered by Mr. WADSWORTH: On page 13, strike out lines 7 to 11 inclusive, and insert in lieu thereof:

"To acquire by loan or gift personal property useful in the exercise of authority granted by this act."

Mr. WADSWORTH. Mr. Chairman, in reading over this bill and in striking out this paragraph I am wondering why it is necessary for this Foundation to acquire real property, to acquire it by purchase and then if it so desires, to sell it. I can understand how they would be glad to accept loans or gifts of personal property, such as scientific equipment; but when we come to the point that we authorize this Foundation to purchase real estate—it may be a plot of bare land or it may be a great office building, and then sell it as it may please, it seems to me we are going beyond the necessities of this Foundation.

Instead of giving them the outright power to purchase real estate I propose that it read:

To acquire by loan or gift personal property useful in the exercise of the authority granted by this act.

It seems to me that covers whatever power this Foundation may need.

Mr. PRIEST. Mr. Chairman, I rise in opposition to the amendment offered by the gentleman from New York.

Mr. Chairman, this particular section has been gone into for 4 years by this and other committees. I may say to the distinguished gentleman from New York that there is not likely to be many occasions when it would be necessary to acquire any real estate, but it might be necessary in connection with some project carried on by an industrial laboratory or in a university to acquire a small piece of land and this makes it possible that that be done. Without believing it is likely to be done, and emphasizing that the bill itself prohibits the Foundation from operating a pilot plant or laboratory of its own, the committee has felt all along it would be wise to give them that authority if it is found necessary.

Mr. WADSWORTH. That opens up quite a vista.

The CHAIRMAN. The question is on the amendment offered by the gentleman from New York [Mr. WADSWORTH].

The question was taken; and on a division (demanded by Mr. WADSWORTH) there were—ayes 46, noes 78.

So the amendment was rejected.

The CHAIRMAN. The Chair recognizes the gentleman from Pennsylvania [Mr. FULTON].

Mr. FULTON. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. FULTON: On page 16, line 9, after subsection (2) add a new subsection (3) to read as follows:

"Agreements made by the United States under the authority of this act with other governments and with international organizations shall be registered with the secretariat of the United Nations in accordance with the provisions of article 102 of the United Nations Charter."

Mr. FULTON. Mr. Chairman, the purpose of this amendment is to make the bill conform to the point 4 program bill. This amendment is section 6 on page 7 of the point 4 program bill. So anyone who does not want Yalta to happen again and does not want to go against Wilson's promises of "open covenants openly arrived at," should vote for this amendment.

Mr. PRIEST. Mr. Chairman, will the gentleman yield?

Mr. FULTON. I yield to the distinguished gentleman from Tennessee.

Mr. PRIEST. I am sure my good friend from Pennsylvania is very sincere in offering this amendment. The only agreements contemplated under this provision in the bill would be agreements that would involve research of a secret nature which we feel should not come under the category of technical agreements under point 4 which has not yet been approved by the Congress. I am sure the gentleman has the best interests of the country at heart in offering the amendment, but the very purpose of the bill is to enter into these agreements if it might be necessary for research of a restrictive nature and it would not be restrictive if all of it were filed with the United Nations or anyone else.

Mr. FULTON. Mr. Chairman, I shall not press my amendment, but may I ask a question? Why does the act give the Government power to hold patents in the name of a nominee, not being named. Also, why does the act permit the Foundation to have agencies run not only pilot plants but possibly plants for the production of materials? In addition, why do they prevent the legislative branch of the Federal Government from holding any office without pay on the divisional committees and special commissions?

The CHAIRMAN. The time of the gentleman from Pennsylvania has expired.

The question is on the amendment of the gentleman from Pennsylvania [Mr. FULTON].

The amendment was rejected.

The CHAIRMAN. The Chair recognizes the gentleman from Iowa [Mr. Lecompte].

Mr. Lecompte. Mr. Chairman, I ask unanimous consent that the time allotted to me be given to the gentleman from Minnesota [Mr. JUDD].

The CHAIRMAN. Is there objection to the request of the gentleman from Iowa?

There was no objection.

Mr. JUDD. Mr. Chairman, I take this time to ask several questions of the chairman of the committee in order to clarify certain points in the record. I spoke to the chairman about them yesterday. The first is on page 2 of the bill. You will note this language beginning on line 4:

The Foundation is authorized and directed to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences.

That same phrase "and education in the sciences" appears on the next page, in line 23.

What are we to understand by "education in the sciences"? Is that limited to the provision of scholarships and fellowships for individuals as set forth in section 10, or does it go beyond that?

Mr. PRIEST. It is limited to the scholarships and fellowships set forth in section 10.

Mr. JUDD. Then the Foundation would not be able, under this language, for example, to endow chairs in universities or subsidize colleges or other institutions for carrying on general education in the sciences?

Mr. PRIEST. Without any reservation, I will say to the gentleman, it would not.

Mr. JUDD. Thank you. On page 19, subsection (h), beginning with line 11, it says:

Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer with the approval of the head of the department or agency involved, in whole or in part, to the Foundation—

Does that mean that they cannot be transferred without the approval of the head of the agency?

Mr. PRIEST. That is what it means.

Mr. JUDD. The Science Foundation cannot go to any other agency and say "This function really belongs to us" and, in effect, seize it?

Mr. PRIEST. They cannot.

Mr. JUDD. Where it says "approval" does that mean approval in writing?

Mr. PRIEST. I would think so. That would be my opinion.

Mr. JUDD. The gentleman agrees that it is of sufficient importance that it ought to be approved in writing?

Mr. PRIEST. Surely, I will make that statement of record, that it should be approved in writing.

Mr. JUDD. On line 3 of the same page, it says "aiding institutions, agencies, or organizations which, if aided, will advance basic research." What is to be included under the wording "aiding institutions," and so forth, besides giving grants for scholarships and fellowships?

Mr. PRIEST. The only other thing that would be included, in my opinion—and I am sure that is the opinion of the committee—would be a question possibly of some additional equipment; if it is found necessary to carry out a certain research project, that it could be aided somewhat in that particular.

Mr. JUDD. It does not include constructing buildings, for example, or anything of that sort?

Mr. PRIEST. It does not.

Mr. JUDD. I hope I have time for one more question. It concerns the language on page 11 which provides that fellowships and scholarships shall be granted on the basis of giving the widest geographical distribution. What if this should happen? Suppose there is only one applicant from California, and he is a wealthy boy who can get this expensive education without a fellowship. On the other hand there are two applicants from New York. A fellowship had already been granted to one, but the other is so poor he cannot get the training without help. Do you believe that the Foundation would have to give the second fellowship to the California individual who is rich and could provide his own education rather than to the boy who is poor, just because the boy who is poor lives in an area to which other fellowships have already been granted? In short, is it more important to help those who need the help than just to have a wider geographical distribution?

Mr. PRIEST. I would hope, of course, that those who need it, if they have equal ability, might receive consideration. It was thought, however, that there should be some emphasis placed on a geographic distribution, in order to avoid concentration in any one area.

Mr. JUDD. The gentleman does not think this language is a mandate that would make it impossible for the Foundation to help the needier boy even though that meant two scholarships in one place and none in another?

Mr. PRIEST. No; I would hope they would do as you have suggested.

The CHAIRMAN. The Chair recognizes the gentleman from Massachusetts [Mr. HESELTON].

Mr. HESELTON. Mr. Chairman, I should like to try to complete what the gentleman from New Jersey [Mr. WOLVERTON] wanted to tell you during his excellent presentation today, and give you two other pieces of evidence before we reach this vote. He was not able to say that the Hoover Commission recommended that a National Science Foundation be established. I wish you would look at some of the material I put in yesterday's RECORD at page 2550. I call your attention to this: On December 30 the National Defense Department said that they, the Army, Navy, Marine Corps, and Air Force, are also supporting the proposed legislation for a National Science Foundation. That was in December 30. Our committee filed its report favorably June 14.

Does anyone dare suggest that General Bradley, General Collins, Admiral Sherman, General Vandenberg, and General Cates did not know what they were talking about when they made that statement? Are we going to disregard that?

Look at Dr. Bronk's statement:

I need not remind you that certain potential enemies of this country are fully aware of the power of science in their efforts for military strength and military power.

Then he adds:

Because of that consideration alone I take it that a National Science Foundation is of the utmost importance to the Nation and to the security of the Nation.

Will you not before you vote look at the short 3½-page statement of Dr. Karl Compton, who was there representing the National Military Establishment, and also as Chairman of the Research and Development Board and as president of MIT? You remember his magnificent war record. Does not his voice count at all with us?

Then read the six-paragraph letter signed by the chairman of the committee on science legislation of the Engineers Joint Council, and scientists from California Institute of Technology, Johns Hopkins University, Carnegie Institute of Technology, University of Illinois, New York University College of Medicine, University of Minnesota, University of Colorado, and by Mr. Robert E. Wilson, chairman of the board, Standard Oil Co. of Indiana.

I have tried my level best to get the evidence as I have it before you, because I know this is a tremendously difficult and a tremendously important decision. I hope no one will approach the vote that is coming now in a few minutes without a full understanding of its significance.

In my considered and mature judgment we are facing now one of the most challenging conditions and one of the most threatening situations we have ever faced in this Nation. The National Defense Department advised me this morning that I was underestimating what they were doing in Russia. Yesterday I said that if they succeeded in their 5-year plan they would turn out by 1952 700,000 scientists. How many will we have if we do not pass this bill? I estimated about 400,000, and that estimate is high. They will have at least twice as many scientists as we have. Can we not understand that while that does not necessarily mean they will win the race, if they have two times as many minds working on this, what can be the result? Twice as many opportunities of success. I plead for your support. Do not chain or cripple the advancement of American science.

I sincerely hope I have been able to help you some in making this tremendous decision. I will be amply repaid if you can make it one to satisfy yourselves in the years to come.

Since the vote was taken and the bill passed by such a satisfactory margin, I received further information and want to place it in the RECORD of today for your consideration when the bill comes back from conference. It has to do with the estimates based on the best available information as to the progress in Soviet Russia. I am sure you will all be interested in this official account that comes to me from the National Research Council.

While the council was unable to prepare all the information I desired in view of the shortness of time between my request and the vote, I was advised as follows:

First, there apparently is a disagreement in the appraisals of the Russian program's progress and I think we can all understand that; however, the best information does indicate that the Russians increased their training facilities during the war. They selected from 1,500 technical institutes, with enrollments

even during the war of 425,000, the ablest graduates for full technical scientific training through to the doctorate on federal scholarships. Just contrast that with our unhappy record during the war when we made the mistake of drafting our able technical men and sending them into the armed forces. Four hundred and twenty-five thousand in Russia carrying through to doctorate on federal scholarships. From 1941 through 1945 we graduated with degrees of Ph. D., 7,479 able men and women. Is that not something for us to consider; Soviet Russia graduated more than 56 times as many doctors and scientists as we did even when they were fighting with their backs to the wall.

Next, this 5-year plan was started in 1946 and in 1947, as I understand. So it is four-fifths completed. Even with their pool of trained scientific men, they went ahead with this further plan of intensive training in this area. There is evidence that the number trained in 1950 in the sciences, in technology, will be twice the number graduated 3 years ago in 1947. The number of graduate students receiving research training in the sciences in 1941 was 12,000. In view of the emphasis on this 5-year plan, it seems entirely probable that this number is very considerably greater at the present time although no exact evidence is available to us.

I was advised that with regard to the information I presented to you yesterday it may be said safely that this is the most significant information our technical staffs can bring together. I am told that it indicates clearly that the recent heavy enrollments in engineering and sciences were a temporary situation produced largely by the GI bill of rights and the strong interest produced by the war in technical matters among our veterans. Present enrollment figures in our freshman and sophomore classes in the colleges and universities show quite definitely that the number graduated in these fields in the next 2 or 3 years will be sharply declining below the present level of demand for such personnel.

This law creating this Foundation is the only solution available to us. I am sure that you understand the difficulties of our trying to obtain exact information for your consideration. I am grateful, and I am sure you are, to the National Research Council for its efforts to assist us. I might add that I understand that the Russians have set up a technical training program under which certain schools and universities teach only a certain subject so that everything relating to that single subject is taught at that one school. Consequently, to get the full information I desire would obviously entail considerable research. However, I know that they and other associations of scientists as well as our governmental services are doing everything possible to develop all of this information and I trust it will be available to our conference committee.

The CHAIRMAN. The Chair recognizes the gentleman from California [Mr. HINSHAW].

Mr. HINSHAW. Mr. Chairman, your Committee on Interstate and Foreign

Commerce both in full committee at certain times and at other times by a subcommittee has had this subject under careful scrutiny and discussion for a period of at least 5 years. We have heard from everyone in the United States who was interested sufficiently to let it be known to the committee and who asked for time to appear or go on record in writing. We have brought this bill to you almost unanimously. I think there are perhaps two or three Members in the committee who may not be wholly satisfied with the bill. We brought it to you in the Eightieth Congress. That Congress passed the bill. There is a slight difference between the bill presented then, which passed both Houses, and this bill. This bill is so drawn to meet the objections, which we did not consider too serious, of the President of the United States. They related to the manner of appointment of the Executive Director.

The Hoover report urges that such a bill as this be passed. The Hoover Commission report urgently recommends the passage of a bill of this kind. I hope the House will pass the bill today by an overwhelming majority.

The CHAIRMAN. The time of the gentleman from California has expired. All time has expired.

Under the rule, the Committee rises.

Accordingly the Committee rose; and the Speaker having resumed the chair, Mr. THOMPSON, Chairman of the Committee of the Whole House on the State of the Union, reported that that Committee, having had under consideration the bill (H. R. 4846) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes pursuant to House Resolution 321, he reported the bill back to the House with sundry amendments adopted by the Committee of the Whole.

The SPEAKER. Under the rule, the previous question is ordered.

Is a separate vote demanded on any amendment? If not, the Chair will put them en gross.

The amendments were agreed to.

The SPEAKER. The question is on the engrossment and third reading of the bill.

The bill was ordered to be engrossed and read a third time and was read the third time.

Mr. HALE. Mr. Speaker, I offer a motion to recommit.

The SPEAKER. Is the gentleman opposed to the bill?

Mr. HALE. I am, Mr. Speaker.

The SPEAKER. The Clerk will report the motion to recommit.

The Clerk read as follows:

Mr. HALE moves that H. R. 4846 be re-committed to the Committee on Interstate and Foreign Commerce with instructions to devote further study to the problem involved.

Mr. PRIEST. Mr. Speaker, I move the previous question on the motion.

The previous question was ordered.

The SPEAKER. The question is on the motion to recommit.

Mr. HALE. Mr. Speaker, on that I demand the yeas and nays.

The yeas and nays were ordered.

The question was taken; and there were—yeas 134, nays 240, not voting 58, as follows:

[Roll No. 74]

YEAS—134

Abernethy	Gavin	Norblad
Andersen,	Gillette	Norrell
H. Carl	Golden	Passman
Andersen,	Goodwin	Pfeiffer,
August H.	Graham	William L.
Arends	Gross	Phillips, Calif.
Auchincloss	Gwinn	Pickett
Barden	Hagen	Potter
Barrett, Wyo.	Hale	Rankin
Bates, Ky.	Hall	Reed, Ill.
Bates, Mass.	Edwin Arthur	Reed, N. Y.
Beall	Harden	Rees
Bishop	Harvey	Rich
Bonner	Hobbs	Riehlman
Brehm	Hoeven	Rivers
Brown, Ohio	Hoffman, Mich.	Rogers, Mass.
Burleson	Horan	Sadlak
Byrnes, Wis.	James	St. George
Camp	Jenison	Sanborn
Carlyle	Jennings	Saylor
Case, S. Dak.	Jensen	Scrivner
Chatham	Jonas	Shafer
Chipherfield	Jones, N. C.	Short
Church	Judd	Simpson, Ill.
Clevenger	Kearney	Simpson, Pa.
Cole, Kans.	Kearns	Smith, Kans.
Cole, N. Y.	Kilburn	Smith, Va.
Colmer	Larcade	Smith, Wis.
Cooley	Latham	Stanley
Corbett	LeCompte	Stockman
Cotton	Lichtenwalter	Taber
Crawford	Lovre	Thomas
Curtis	Lucas	Velde
Dague	McConnell	Vursell
Davis, Ga.	McCulloch	Wadsworth
D'Ewart	McGregor	Welch
Dondoro	McMillan, S. C.	Wheeler
Doughton	McMillen, Ill.	Whitten
Elston	Mack, Wash.	Wier
Fellows	Martin, Iowa	Wigglesworth
Fenton	Martin, Mass.	Williams
Fisher	Mason	Wilson, Ind.
Ford	Meyer	Winstead
Fulton	Miller, Md.	Wolcott
Gamble	Morton	Wood
Gathings	Nicholson	Woodruff

NAYS—240

Addonizio	Dawson	Hinshaw
Albert	Deane	Holifield
Allen, Calif.	DeGraffenried	Holmes
Andrews	Delaney	Hope
Angell	Denton	Howell
Aspinall	Dingell	Huber
Bailey	Dollinger	Hull
Baring	Dolliver	Irving
Barrett, Pa.	Donohue	Jackson, Wash.
Battle	Doyle	Jacobs
Beckworth	Durham	Javits
Bennett, Fla.	Eberhart	Jenkins
Bennett, Mich.	Elliot	Johnson
Biemiller	Engel, Mich.	Jones, Ala.
Boggs, La.	Engle, Calif.	Jones, Mo.
Bolling	Evins	Karst
Bolton, Ohio	Fallon	Karsten
Bosone	Feighan	Keating
Bramblett	Fernandez	Kee
Breen	Flood	Keefe
Brown, Ga.	Fogarty	Kelley, Pa.
Bryson	Forand	Kelly, N. Y.
Buchanan	Frazier	Kennedy
Buckley, Ill.	Garmatz	Keogh
Buckley, N. Y.	Gary	Kerr
Burdick	Gordon	Kilday
Burke	Gorski	Kirwan
Burnside	Gossett	Klein
Burton	Granahan	Kruse
Byrne, N. Y.	Granger	Lane
Canfield	Grant	Lanham
Carnahan	Green	Lemke
Carroll	Gregory	Lesinski
Case, N. J.	Halleck	Lind
Cavalcante	Hand	Linehan
Celler	Hardy	Lodge
Chalf	Hare	Lynch
Chesney	Harris	McCarthy
Christopher	Harrison	McCormack
Clemente	Hart	McDonough
Combs	Havener	McGuire
Cooper	Hays, Ark.	McKinnon
Cox	Hays, Ohio	McSweeney
Crook	Hébert	Mack, Ill.
Crosser	Hefferian	Madden
Cunningham	Heller	Magee
Davenport	Herlong	Mahon
Davis, N. Y.	Heslton	Mansfield
Davis, Wis.	Hill	Marsalis

Marshall	Peterson	Steed
Marrow	Pfeifer,	Stefan
Michener	Joseph L.	Stigler
Miles	Philbin	Sullivan
Miller, Calif.	Phillips, Tenn.	Sutton
Miller, Nebr.	Polk	Tackett
Mills	Poulson	Talle
Mitchell	Powell	Tauriello
Monroney	Preston	Thompson
Morgan	Price	Thornberry
Morris	Priest	Tollefson
Moulder	Quinn	Trimble
Multer	Rabaut	Underwood
Murdock	Rains	Van Zandt
Murphy	Ramsay	Vinson
Murray, Tenn.	Rhodes	Vorys
Nelson	Ribicoff	Wagner
Nixon	Richards	Walsh
Noland	Rodino	Walter
Norton	Rogers, Fla.	Welch
O'Brien, Ill.	Rooney	Werdel
O'Brien, Mich.	Roosevelt	White, Calif.
O'Hara, Ill.	Sasser	Whittington
O'Hara, Minn.	Scott,	Wickersham
O'Konski	Hugh D., Jr.	Widnall
O'Neill	Scudder	Willis
O'Sullivan	Secrest	Wilson, Okla.
O'Toole	Sheppard	Withrow
Pace	Sikes	Wolverton
Patman	Sims	Yates
Patten	Spence	Young
Perkins	Staggers	

NOT VOTING—58

Abbitt	Furcolo	Plumley
Allen, Ill.	Gilmer	Poage
Allen, La.	Gore	Redden
Anderson, Calif.	Hall,	Regan
Bentsen	Leonard W.	Sabath
Blackney	Hedrick	Sadowski
Blatnik	Herter	Scott, Hardie
Boggs, Del.	Hoffman, Ill.	Shelley
Bolton, Md.	Jackson, Calif.	Smathers
Boykin	Kean	Smith, Ohio
Brooks	King	Taylor
Bulwinkle	Kunkel	Teague
Cannon	LeFevre	Towe
Chudoff	Lyle	Whitaker
Coudert	McGrath	White, Idaho
Davis, Tenn.	Macy	Wilson, Tex.
Douglas	Marcantonio	Woodhouse
Eaton	Morrison	Worley
Ellsworth	Murray, Wis.	Zablocki
Fugate	Patterson	

So the motion to recommit was rejected.

The Clerk announced the following pairs:

On this vote:

Mr. Eaton for, with Mr. LeFevre against.
Mr. Wilson of Texas for, with Mr. Blackney against.

Mr. Hoffman of Illinois for, with Mr. Anderson of California against.

Mr. Boykin for, with Mr. Kunkel against.

Mr. Towe for, with Mr. Herter against.

Mr. Allen of Illinois for, with Mr. Jackson of California against.

Mr. Kean for, with Mr. Sabath against.

Mr. Smith of Ohio for, with Mr. Morrison against.

Mr. Coudert for, with Mr. Shelley against.

Mr. Bulwinkle for, with Mr. McGrath against.

Mr. Redden for, with Mr. Hedrick against.

Mr. Macy for, with Mrs. Douglas against.

Mr. Taylor for, with Mr. Chudoff against.

General pairs until further notice:

Mrs. Woodhouse with Mr. Patterson.

Mr. Whitaker with Mr. Hardie Scott.

Mr. Teague with Mr. Boggs of Delaware.

Mr. Sadowski with Mr. Leonard W. Hall.

Mr. Allen of Louisiana with Mr. Ellsworth.

Mr. Cannon with Mr. Murray of Wisconsin.

Mr. TACKETT, Mr. CHELF, and Mr. POULSON changed their votes from "yea" to "nay."

Mr. GILLETTE changed his vote from "nay" to "yea."

The result of the vote was announced as above recorded.

The SPEAKER. The question is on the passage of the bill.

Mr. PRIEST. Mr. Speaker, on that I ask for the yeas and nays.

The yeas and nays were ordered.

The question was taken; and there were—yeas 247, nays 125, answered "present" 1, not voting 59, as follows:

[Roll No. 75]

YEAS—247

Addonizio	Hall,	Murdock
Albert	Edwin Arthur	Murphy
Allen, Calif.	Halleck	Murray, Tenn.
Angell	Hand	Nelson
Aspinall	Hardy	Nixon
Bailey	Hare	Noland
Baring	Harris	Norton
Barrett, Pa.	Harrison	O'Brien, Ill.
Bates, Mass.	Hart	O'Brien, Mich.
Battle	Havenner	O'Hara, Ill.
Beall	Hays, Ark.	O'Hara, Minn.
Beckworth	Hays, Ohio	O'Konski
Bennett, Fla.	Hébert	O'Neill
Bennett, Mich.	Heffernan	O'Sullivan
Biemiller	Heller	O'Toole
Blatnik	Herlong	Pace
Boggs, La.	Heselton	Patman
Bolling	Hill	Patten
Bosone	Hinshaw	Perkins
Bramblett	Holifield	Peterson
Bréen	Holmes	Pfeifer,
Brown, Ga.	Hope	Joseph L.
Bryson	Horan	Philbin
Buchanan	Howell	Phillips, Tenn.
Buckley, Ill.	Huber	Polk
Buckley, N. Y.	Hull	Powell
Burdick	Irving	Preston
Burke	Jackson, Wash.	Price
Burnside	Javits	Priest
Burton	Jenkins	Quinn
Byrne, N. Y.	Johnson	Rabaut
Canfield	Jones, Ala.	Rains
Carnahan	Jones, Mo.	Ramsay
Carroll	Judd	Rhodes
Case, N. J.	Karst	Ribicoff
Case, S. Dak.	Karsten	Richards
Cavalcante	Keating	Rodino
Celler	Kee	Rogers, Fla.
Chelf	Keefe	Rooney
Chesney	Kelley, Pa.	Roosevelt
Christopher	Kelly, N. Y.	Sasser
Clemente	Kennedy	Scott,
Combs	Keogh	Hugh D., Jr.
Cooper	Kerr	Scudder
Cox	Kilday	Secrest
Crook	King	Sheppard
Crosser	Kirwan	Sikes
Cunningham	Klein	Sims
Davenport	Kruse	Spence
Davis, N. Y.	Lane	Staggers
Davis, Ga.	Lanham	Steed
Davis, Wis.	LeCompte	Stefan
Dawson	Lemke	Stigler
Deane	Lesinski	Sullivan
DeGraffenried	Lind	Sutton
Delaney	Linehan	Tackett
Denton	Lodge	Talle
Dingell	Lynch	Tauriello
Dollinger	McCarthy	Thomas
Dolliver	McCormack	Thompson
Donohue	McDonough	Tollefson
Doyle	McGuire	Trimble
Durham	McKinnon	Van Zandt
Eberhart	McMillen, Ill.	Vinson
Elliott	McSweeney	Vorys
Engel, Mich.	Mack, Ill.	Wagner
Evins	Madden	Walsh
Fallon	Magee	Walter
Feighan	Mahon	Welch
Fernandez	Mansfield	White, Calif.
Flood	Marsalis	Whittington
Fogarty	Marshall	Wickersham
Forand	Marrow	Widnall
Frazier	Michener	Wigglesworth
Garmatz	Miles	Willis
Gary	Miller, Calif.	Wilson, Okla.
Gordon	Miller, Nebr.	Withrow
Gorski	Mills	Wolcott
Gossett	Mitchell	Wolverton
Granahan	Monrone	Yates
Granger	Morgan	Young
Grant	Morris	Zablocki
Green	Moulder	
Gregory	Multer	

NAYS—125

Abernethy	Andrews	Bates, Ky.
Andersen,	Arends	Bishop
H. Carl	Auchincloss	Bolton, Ohio
Andersen,	Bardeen	Bonner
August H.	Barrett, Wyo	Brehm

Brown, Ohio	Harden	Rankin
Burleson	Hobbs	Reed, Ill.
Byrnes, Wis.	Hoeven	Reed, N. Y.
Camp	Hoffman, Mich.	Rees
Carlyle	James	Rich
Chatham	Jenison	Riehlman
Chipherfield	Jennings	Rivers
Church	Jensen	Rogers, Mass.
Clevenger	Jonas	Sadlak
Cole, Kans.	Jones, N. C.	St. George
Cole, N. Y.	Kearney	Sanborn
Colmer	Kearns	Saylor
Cooley	Kilburn	Scrivner
Corbett	Larcade	Shafer
Cotton	Latham	Short
Crawford	Lichtenwalter	Simpson, Ill.
Curtis	Lovre	Simpson, Pa.
Dague	Lucas	Smith, Kans.
D'Ewart	McConnell	Smith, Va.
Dondero	McCulloch	Smith, Wis.
Doughton	McGregor	Stanley
Elston	McMillan, S. C.	Stockman
Fellows	Mack, Wash.	Taber
Fenton	Martin, Iowa	Taylor
Fisher	Martin, Mass.	Velde
Ford	Mason	Vursell
Fulton	Meyer	Wadsworth
Gamble	Miller, Md.	Welch
Gathings	Morton	Werdell
Gavin	Nicholson	Wheeler
Gillette	Norblad	Whitten
Golden	Norrell	Wier
Goodwin	Passman	Williams
Graham	Patterson	Wilson, Ind.
Gross	Pfeiffer,	Winstead
Gwinn	William L.	Wood
Hagen	Phillips, Calif.	Woodruff
Hale	Pickett	

ANSWERED "PRESENT"—1

Harvey

NOT VOTING—59

Abbitt	Furcolo	Poage
Allen, Ill.	Gilmer	Potter
Allen, La.	Gore	Poulson
Anderson, Calif.	Hall,	Redden
Bentsen	Leonard W.	Regan
Blackney	Hedrick	Sabath
Boggs, Del.	Herter	Sadowski
Bolton, Md.	Hoffman, Ill.	Scott, Hardie
Boykin	Jackson, Calif.	Shelley
Brooks	Jacobs	Smathers
Bulwinkle	Kean	Smith, Ohio
Cannon	Kunkel	Teague
Chudoff	LeFevre	Thornberry
Coudert	Lyle	Towe
Davis, Tenn.	McGrath	Underwood
Douglas	Macy	Whitaker
Eaton	Marcantonio	White, Idaho
Ellsworth	Morrison	Wilson, Tex.
Engle, Calif.	Murray, Wis.	Woodhouse
Fugate	Mumley	Worley

So the bill was passed.

The Clerk announced the following pairs:

On this vote:

Mr. Jacobs for, with Mr. Harvey against.
 Mr. LeFevre for, with Mr. Eaton against.
 Mr. Blackney for, with Mr. Wilson of Texas against.
 Mr. Anderson of California for, with Mr. Hoffman of Illinois against.
 Mr. Shelley for, with Mr. Coudert against.
 Mr. Herter for, with Mr. Towe against.
 Mr. Jackson of California for, with Mr. Allen of Illinois against.
 Mr. Sabath for, with Mr. Kean against.
 Mr. Morrison for, with Mr. Smith of Ohio against.
 Mr. Shelly for, with Mr. Coudert against.
 Mr. McGrath for, with Mr. Bulwinkle against.
 Mrs. Woodhouse for, with Mr. Redden against.
 Mrs. Douglas for, with Mr. Macy against.
 Mr. Chudoff for, with Mr. Potter against.

General pairs until further notice:

Mr. Sadowski with Mr. Boggs of Delaware.
 Mr. Teague with Mr. Leonard W. Hall.
 Mr. Engle of California with Mr. Ellsworth.
 Mr. Cannon with Mr. Murray of Wisconsin.
 Mr. Allen of Louisiana with Mr. Poulson.

Mr. HARVEY. Mr. Speaker, I have a live pair with the gentleman from Indiana [Mr. JACOBS]. If he were present he would have voted "aye." I voted "nay." I withdraw my vote and vote "present."

The result of the vote was announced as above recorded.

Mr. PRIEST. Mr. Speaker, I ask unanimous consent for the immediate consideration of the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The Clerk read the title of the bill.

The SPEAKER. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

Mr. PRIEST. Mr. Speaker, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. PRIEST: Strike out all after the enacting clause and insert the provisions of the bill H. R. 4846 as amended.

The amendment was agreed to.

The bill was ordered to be read a third time, was read the third time, and passed and a motion to reconsider was laid on the table.

By unanimous consent, the proceedings whereby the bill H. R. 4846 was passed were vacated, and the bill was laid on the table.

Mr. CROSSER. Mr. Speaker, I ask unanimous consent that all Members may have five legislative days in which to extend their remarks on the bill just passed.

The SPEAKER. Is there objection to the request of the gentleman from Ohio?

There was no objection.

EXTENSION OF REMARKS

Mr. HOLIFIELD asked and was given permission to extend his remarks in the RECORD following any special orders of the day.

Mr. ROGERS of Florida asked and was given permission to extend his remarks in the RECORD and include a list of State agencies authorized to approve surplus commodity applications held by Commodity Credit Corporation.

Mr. RODINO asked and was given permission to extend his remarks in the RECORD and include an editorial.

Mr. WERDEL asked and was given permission to extend his remarks in the RECORD.

Mr. WOLVERTON asked and was given permission to revise and extend the remarks he made in Committee today.

Mr. CUNNINGHAM asked and was given permission to extend his remarks in the RECORD and include an editorial appearing in the Des Moines Register.

Mr. TABER asked and was given permission to extend his remarks in the RECORD.

Mr. HESELTON asked and was given permission to revise and extend the remarks he made in Committee today and include statistical information.

Mr. HILL asked and was given permission to extend his remarks in the RECORD and include an editorial.

Mr. PHILBIN asked and was given permission to extend his remarks in the RECORD in three instances.

Mr. RANKIN asked and was given permission to revise and extend the remarks he made today in Committee of the Whole on the question of personal privilege.

Mr. LARCADE asked and was given permission to extend his remarks in the RECORD.

Mr. FULTON asked and was given permission to extend his remarks in the RECORD following the remarks of Mr. JAVITS today.

PERMISSION TO ADDRESS THE HOUSE

Mr. PHILBIN. Mr. Speaker, I ask unanimous consent to address the House for 1 minute and to revise and extend my remarks.

The SPEAKER. Is there objection to the request of the gentleman from Massachusetts?

There was no objection.

UNJUST REPRISAL AGAINST ADMIRAL DENFELD

Mr. PHILBIN. Mr. Speaker, the House Armed Services Committee is today releasing a report of its investigation of unification and strategy together with certain committee action relative to the removal of Admiral Denfeld. This report is a voluminous document and speaks for itself.

I have been particularly interested in that part of the report which relates to Admiral Denfeld because I have been and am of the opinion that his removal was ill-advised, and may well gravely affect the inquisitorial powers of the House.

Let it be remembered that Admiral Denfeld and his colleagues as well as the committee were given express assurances by very highest Defense Department officials, prior to their testimony, that there would be no retaliation. Notwithstanding this fact, a short time after the testimony was given, the admiral was summarily removed. I believe with the majority of the committee that this removal was in the nature of a reprisal and most regrettable.

While it is true that Congress is powerless at this time to rectify the gross injustice which has been done to a great American who has faithfully served our Nation as an outstanding naval officer for more than 38 years, this challenge to the dignity and powers of the House cannot be overlooked or forgotten. Flagrant mistreatment of able, faithful naval officers and disregard for congressional committees is too high a price to pay for unification.

STATE RURAL REHABILITATION CORPORATIONS

Mr. COLMER. Mr. Speaker, I call up House Resolution 382 and ask for its immediate consideration.

The Clerk read the resolution, as follows:

Resolved, That immediately upon the adoption of this resolution it shall be in order to move that the House resolve itself into the Committee of the Whole House on the

State of the Union for the consideration of the bill (H. R. 2392) to provide for the liquidation of the trusts under the transfer agreements with State rural rehabilitation corporations, and for other purposes. That after general debate, which shall be confined to the bill and continue not to exceed 1 hour, to be equally divided and controlled by the chairman and the ranking minority member of the Committee on Agriculture, the bill shall be read for amendment under the 5-minute rule. At the conclusion of the consideration of the bill for amendment, the Committee shall rise and report the bill to the House with such amendments as may have been adopted and the previous question shall be considered as ordered on the bill and amendments thereto to final passage without intervening motion except one motion to recommit.

Mr. COLMER. Mr. Speaker, I yield 30 minutes to the gentleman from Ohio [Mr. BROWN], and pending that, I yield 5 minutes to the gentleman from North Carolina [Mr. COOLEY], chairman of the Committee on Agriculture.

Mr. COOLEY. Mr. Speaker, the purpose of this bill is to provide for the final disposition of funds which were granted to the States in the years 1933 through 1935, for the purpose of providing relief and rehabilitation in rural areas. These funds were transferred to and became the property of the several States, or rather, to the corporations which were organized in the several States. Not all the funds were expended at the time when these relief and rehabilitation programs were most active, and the remaining funds—amounting to about \$50,000,000 in all—have been held in trust by the Secretary of Agriculture during the past several years under transfer agreements with the State corporations.

These agreements were entered into between the rural rehabilitation corporations of the various States and the United States of America. They are legally binding trust agreements under which specific assets of these State corporations are placed in trust with the Secretary of Agriculture for administration by him within the various States, in conformity with the charters of the various State corporations, and under terms and conditions stipulated in the trust agreements.

In 1946 the Congress directed in the Farmers Home Administration Act that these trusts be liquidated, but the law gave no directions nor established any policy as to the disposition of the funds arising through such liquidation. It is the purpose of this bill to establish a directive and a policy to be followed by the Secretary of Agriculture in liquidating these trusts in conformity with both the terms of the trust agreements themselves and the provisions of the Farmers Home Administration Act of 1946.

There is no doubt that the assets involved are the property of the several States. A large proportion of the assets are not in money, but are in the form of loans receivable, accounts and notes receivable, and real property which has been acquired by the various corporations in the course of carrying out the purposes for which the funds were established.

The trust agreements were entered into by the various States at the invita-

tion of the Federal Government. The trusts were established at the time when both Federal and State relief organizations were being disbanded, and their specific purpose was to permit the continuation of the rural rehabilitation work being carried on with the funds. Many of the trust agreements provide explicitly that the assets shall be returned to the States at the end of a stated period or upon the failure of the Federal Government to carry out the stated purposes of the trust.

This bill recognizes the validity of the claims of the various States to these trust assets. At the same time, it recognizes that some of the States may desire to have the assets administered through the Federal Government, much in the manner in which they have been handled for the past several years under the trust agreements.

The bill establishes two methods by which these assets may be disposed of in a manner consistent with this policy, and also consistent with the terms of the trust agreements:

First. The outright return of the assets to the State rural rehabilitation corporations or their successor agencies for administration in conformity with the original purpose and powers of the corporations;

Second. The surrender of the assets to the Federal Government for use by the Farmers Home Administration within the respective States in general keeping with the rural rehabilitation purposes of the funds.

The failure of the Federal Government to take decisive action and return the assets to the States would amount, in effect, to a breach of faith on the part of the United States.

The Farmers Home Administration Act of 1946 directed the Secretary of Agriculture to liquidate these trusts but gave him no directive or policy to follow in such liquidation. The bill before us today provides such a directive, along lines of principles worked out by the Committee on Agriculture in the course of long consideration of this matter. The bill offers a just and equitable means of disposing of these trusts, and at the same time assuring that the funds will continue to be used for their intended purpose in the manner that offers the most efficient administration in the case of each of the States.

This bill was not reported with the unanimous approval of the committee. It is controversial, and I have every reason to believe that amendments and perhaps even substitutes will be offered. The bill does, however, present an important issue which must be decided, one way or the other. The importance of the measure should commend it to your very careful consideration.

Congress has heretofore directed the Administrator to liquidate these trusts but no direction with regard to the liquidation was given. If the trustee would only follow the specific provisions of the trust agreements there would actually be no necessity for legislation. At the time that we directed liquidation, no question was raised as to the rightful ownership of the funds and property involved. Sometime thereafter, however,



United States
of America

Congressional Record

PROCEEDINGS AND DEBATES OF THE 81st CONGRESS, SECOND SESSION

Vol. 96

WASHINGTON, MONDAY, MARCH 27, 1950

No. 61

Senate

(Legislative day of Wednesday, March 8, 1950)

The Senate met at 12 o'clock meridian, on the expiration of the recess.

The Chaplain, Rev. Frederick Brown Harris, D. D., offered the following prayer:

Father of all mankind, with minds burdened for the Nation and for the world in this desperate and baffling day, we turn to Thee, our help in ages past, our hope for years to come. For all the glory which is America, we bless Thy name—for borders without guns, for frontiers which are swinging gates, for unity in diversity, for peace which spans a continent, and for equality which beckons all to the summits.

Strengthen in us the steadfast faith that these healing trees of democracy grown in this land of the free may blossom under all skies in all the earth. Facing decisions of destiny, unite our hearts and minds, we beseech Thee, in a mighty purpose that we fail not man nor Thee. We ask it in the dear Redeemer's name. Amen.

THE JOURNAL

On request of Mr. MYERS, and by unanimous consent, the reading of the Journal of the proceedings of Friday, March 24, 1950, was dispensed with.

MESSAGES FROM THE PRESIDENT—APPROVAL OF BILLS AND JOINT RESOLUTION

Messages in writing from the President of the United States were communicated to the Senate by Mr. Miller, one of his secretaries, and he announced that the President had approved and signed the following acts and joint resolution:

On March 6, 1950:

S. 204. An act for the relief of Eugenio Maisterrena Barreneche.

On March 24, 1950:

S. 2205. An act to authorize the Commissioners of the District of Columbia to provide for the removal of sludge; and

S. J. Res. 161. Joint resolution to suspend the application of certain Federal laws with respect to attorneys employed by the Senate Committee on Foreign Relations in connection with the investigation ordered by Senate Resolution 231, Eighty-first Congress.

CALL OF THE ROLL

Mr. MYERS. I suggest the absence of a quorum.

The VICE PRESIDENT. The Secretary will call the roll.

The roll was called, and the following Senators answered to their names:

Aiken	Hayden	Maybank
Anderson	Hendrickson	Millikin
Benton	Hickenlooper	Morse
Brewster	Hill	Mundt
Bricker	Hoey	Murray
Bridges	Holland	Myers
Butler	Humphrey	Neely
Byrd	Hunt	O'Connor
Cain	Ives	O'Mahoney
Chapman	Jenner	Robertson
Chavez	Johnson, Colo.	Russell
Connally	Johnson, Tex.	Saltonstall
Cordon	Johnston, S. C.	Schoeppel
Darby	Kefauver	Smith, Maine
Donnell	Kem	Smith, N. J.
Douglas	Kerr	Sparkman
Dworshak	Kilgore	Stennis
Eastland	Knowland	Taylor
Ecton	Lehman	Thomas, Okla.
Ellender	Long	Thomas, Utah
Ferguson	McCarthy	Thye
Flanders	McClellan	Tydings
Frear	McFarland	Watkins
Fulbright	McKellar	Wherry
George	McMahon	Wiley
Gillette	Magnuson	Williams
Green	Malone	Withers
Gurney	Martin	Young

Mr. MYERS. I announce that the Senator from California [Mr. DOWNEY] and the Senator from Rhode Island [Mr. LEAHY] are absent because of illness.

The Senator from North Carolina [Mr. GRAHAM], the Senator from Illinois [Mr. LUCAS], and the Senator from Florida [Mr. PEPPER] are absent on public business.

The Senator from Nevada [Mr. McCARRAN] is absent by leave of the Senate.

Mr. SALTONSTALL. I announce that the Senator from Indiana [Mr. CAPEHART] is absent because of the death of his brother.

The Senator from North Dakota [Mr. LANGER] is absent on official business.

The Senator from Massachusetts [Mr. LODGE], the Senator from Ohio [Mr. TAIT], the Senator from New Hampshire [Mr. TOBEY], and the Senator from Michigan [Mr. VANDENBERG] are necessarily absent.

The VICE PRESIDENT. A quorum is present.

REPORT OF GOVERNOR OF PANAMA CANAL—MESSAGE FROM THE PRESIDENT (H. DOC. NO. 410)

The VICE PRESIDENT laid before the Senate the following message from the

President of the United States, which was read, and, with the accompanying report, referred to the Committee on Armed Services:

To the Congress of the United States:

I transmit herewith, for the information of the Congress, the Annual Report of the Governor of the Panama Canal for the fiscal year ended June 30, 1949.

HARRY S. TRUMAN.

THE WHITE HOUSE, March 24, 1950.

PROMOTION OF THE PROGRESS OF SCIENCE

The VICE PRESIDENT laid before the Senate the amendment of the House of Representatives to the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, which was to strike out all after the enacting clause and insert:

That this act may be cited as the "National Science Foundation Act of 1950."

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation"). The Foundation shall consist of a National Science Board (hereinafter referred to as the "Board") and a Director.

FUNCTIONS OF THE FOUNDATIONS

SEC. 3. (a) The Foundation is authorized and directed—

(1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(2) to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

(3) after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

(4) to award, as provided in section 10, scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) to evaluate scientific research programs undertaken by agencies of the Federal Government, and to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups;

(7) to establish such special commissions as the Board may from time to time deem necessary for the purposes of this act; and

(8) to maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including its Territories and possessions.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

(c) The Foundation shall render an annual report to the President for submission on or before the 15th day of January of each year to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. Such report shall include in full the report of the Executive Committee to the Board, provided for in section 6 (e), and information as to the acquisition and disposition by the Foundation of any patents and patent rights.

NATIONAL SCIENCE BOARD

SEC. 4. (a) The Board shall consist of 24 members to be appointed by the President, by and with the advice and consent of the Senate, and of the Director ex officio, and shall, except as otherwise provided in this act, exercise the authority granted to the Foundation by this act. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, the Association of Land Grant Colleges and Universities, the National Association of State Universities, the Association of American Colleges, or by other scientific or educational organizations.

(b) The term of the office of each voting member of the Board shall be 6 years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this act shall expire, as designated by the President at the time of appointment, eight at the end of 2 years, eight at the end of 4 years, and eight at the end of 6 years, after the date of enactment of this act. Any person who has been a member of the Board for 12 consecutive years shall thereafter be ineligible for appointment during the 2-year period following the expiration of such twelfth year.

(c) The President shall call the first meeting of the Board, at which the first order of

business shall be the election of a chairman and a vice chairman.

(d) The Board shall meet annually on the first Monday in December and at such other times as the chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the voting members of the Board shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record not less than 15 days prior to any meeting, of the call of such meeting.

(e) The first chairman and vice chairman of the Board shall be elected by the Board to serve until the first Monday in December next succeeding the date of election at which time a chairman and vice chairman shall be elected for a term of 2 years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The vice chairman shall perform the duties of the chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Board shall elect a member to fill such vacancy.

DIRECTOR OF THE FOUNDATION

SEC. 5. (a) There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate, after receiving recommendations from the Board. He shall serve as a nonvoting ex officio member of the Board and also as the nonvoting chairman of the Executive Committee. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of 6 years unless sooner removed by the President.

(b) In addition to the powers and duties specifically vested in him by this act, the Director shall, in accordance with the policies established by the board, exercise the powers granted by sections 10 and 11 of this act, together with such other powers and duties as may be delegated to him by the Board; but the powers granted by sections 10 and 11 (c) shall be exercised only with the approval of the Board.

EXECUTIVE COMMITTEE

SEC. 6. (a) There is hereby established an Executive Committee of the Board which shall consist of the Director ex officio and nine other members elected by the members of the Board from among their number. The term of office of each member of the Executive Committee shall be 2 years, except that (1) any member elected to fill a vacancy occurring prior to the expiration of the term for which his predecessor was elected shall be elected for the remainder of such term; and (2) the term of office of four of the members first elected after the date of enactment of this act shall be 1 year. Any person who has been a member of the Executive Committee for six consecutive years shall thereafter be ineligible for election during the 2-year period following the expiration of such sixth year. The membership of the Executive Committee shall, so far as practicable, be representative of diverse interests and shall be so chosen as to provide representation, so far as practicable, for all areas of the Nation.

(b) In addition to the powers and duties specifically vested in it by this act, the Executive Committee shall exercise such powers and duties as may be delegated to it by the Board.

(c) The Executive Committee shall meet at the call of its chairman or at such times as may be fixed by itself, but not less than six times each year.

(d) A majority of the voting members of the Executive Committee shall constitute a quorum.

(e) The Executive Committee shall render an annual report to the Board, and such other reports as it may deem necessary, summarizing the activities of the Executive Committee, making such recommendations as it

may deem appropriate, and setting forth the recommendations of the divisional committees and special commissions. Minority views and recommendations, if any, of members of the Executive Committee, the divisional committees, and special commissions shall be included in such reports.

DIVISIONS WITHIN THE FOUNDATION

SEC. 7. (a) Until otherwise provided by the Board there shall be within the Foundation the following divisions:

- (1) A Division of Medical Research;
- (2) A Division of Mathematical, Physical, and Engineering Sciences;
- (3) A Division of Biological Sciences; and
- (4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological engineering, and other sciences.

(b) There shall also be within the Foundation such other divisions as the Board may, from time to time, deem necessary.

DIVISIONAL COMMITTEES

SEC. 8. (a) There shall be a committee for each division of the Foundation.

(b) Each divisional committee shall be appointed by the Executive Committee and shall consist of not less than five persons who may be members or nonmembers of the Board.

(c) The terms of members of each divisional committee shall be 2 years. Each divisional committee shall annually elect its own chairman from among its own members and shall prescribe its own rules of procedure subject to such restrictions as may be prescribed by the Executive Committee.

(d) Each divisional committee shall make recommendations to, and advise and consult with, the Executive Committee and the Director with respect to matters relating to the program of its division.

SPECIAL COMMISSIONS

SEC. 9. (a) Each special commission established pursuant to section 3 (a) (7) shall consist of 11 members appointed by the Executive Committee, 6 of whom shall be eminent scientists and 5 of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.

(b) It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being carried on in its field, and to formulate and recommend to the Foundation at the earliest practicable date an over-all research program in its field.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

SEC. 10. (a) The Foundation is authorized to award, within the limits of funds made available specifically for such purpose pursuant to section 15, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.

(b) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this act shall be used to make payments under any scholarship or fellowship to any individual unless there is on file with the Foundation an affidavit executed by such individual that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods. The provisions of section 1001 of title 18, United States Code, shall be applicable in respect to such affidavits.

GENERAL AUTHORITY OF FOUNDATION

SEC. 11. The Foundation shall have the authority, within the limits of available appropriations, to do all things necessary to carry out the provisions of this act, including, but without being limited thereto, the authority—

(a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;

(b) to make such expenditures as may be necessary for administering the provisions of this act;

(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other government agencies of the United States and of foreign countries, of such basic scientific research activities and, with approval of the Secretary of Defense, such scientific research activities in connection with matters relating to the national defense as the Foundation deems necessary to carry out the purposes of this act, and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes;

(d) to make advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by this act;

(f) to receive and use funds donated by others, if such funds are donated, without restriction, other than that they be used in furtherance of one or more of the general purposes of the Foundation;

(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the act of January 12, 1895 (28 Stat. 622), and section 11 of the act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to provide transportation and subsistence as authorized by section 5 of the act of August 2, 1946 (5 U. S. C. 73b-2) for persons serving without compensation; and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 12. (a) Each contract or other arrangement executed pursuant to this act which relates to scientific research shall contain

provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however*, That nothing in this act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however*, That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

INTERNATIONAL COOPERATION AND COORDINATION WITH FOREIGN POLICY

SEC. 13. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable. The Director, with the approval of the Executive Committee, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this act.

(b) (1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c), and the authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only with the approval of the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

(2) If, in the exercise of the authority referred to in paragraph (1) of this subsection, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

MISCELLANEOUS PROVISIONS

SEC. 14. (a) The Director shall, in accordance with such policies as the Executive Committee shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this act. Such appointments shall be made and such compensation shall be fixed in accordance with their provisions of the civil-service laws and regulations and the Classification Act of 1949: *Provided*, That the Director may, in accordance with such policies as the Executive Committee shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this act. The Deputy Director hereinafter provided for, and the members of the divisional committees and special commissions, shall be appointed without regard to the civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of

the Executive Committee, hold any office in, or act in any capacity for, any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this act.

(b) The Director may appoint, with the approval of the Executive Committee, a Deputy Director who shall perform such functions as the Director, with the approval of the Executive Committee, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director.

(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

(d) The members of the Board, and the members of each divisional committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation pursuant to authorization of the Foundation, and shall be allowed travel expenses as authorized by section 5 of the act of August 2, 1946 (5 U. S. C. 73b-2).

(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees and special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(f) Service of an individual as a member of the Board, of a divisional committee, or of a special commission shall not be considered as service bringing him within the provisions of section 281, 283, or 285 of title 18 of the United States Code or section 190 of the Revised Statutes (5 U. S. C., sec. 99), unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly nonprofit organizations, in the States, Territories, possessions, and the District of Columbia, (3) aiding institutions, agencies, or organizations which, if aided will advance basic research, and (4) encouraging independent basic research by individuals.

(h) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

(i) The National Roster of Scientific and Specialized Personnel shall be transferred from the United States Employment Service to the Foundation, together with such records and property as have been utilized or are available for use in the administration of such roster as may be determined by the Director of the Bureau of the Budget. The transfer provided for in this subsection

shall take effect at such time or times as the Director of the Bureau of the Budget shall direct.

(j) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. Nothing in this act shall supersede or modify any provision of the Atomic Energy Act of 1946.

(k) The Executive Committee, with the approval of the Secretary of Defense, shall establish regulations and procedures for the security classification of information or property (having military significance) in connection with scientific research under this act, and for the proper safeguarding of any information or property so classified.

(l) No person shall be employed by the Foundation and no scholarship shall be awarded to any person by the Foundation unless and until the Federal Bureau of Investigation shall have investigated the loyalty of such person and reported to the Foundation such person is loyal to the United States, believes in our system of government, and is not and has not at any time been a member of any organization declared subversive by the Attorney General or any organization that teaches or advocates the overthrow of our Government by force and violence.

(m) No person a national of a foreign country shall be associated with the Foundation in any capacity whatsoever unless and until the Federal Bureau of Investigation, independent of any investigation made by the Government of such person shall have investigated such person and reported to the Foundation that such person is not and has not at any time been a member of any organization that teaches or advocates the overthrow of the Government of the United States by force and violence.

APPROPRIATIONS

SEC. 15. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated to the Foundation, out of any money in the Treasury not otherwise appropriated, not to exceed \$500,000 for the fiscal year ending June 30, 1951, and not to exceed \$15,000,000 for each fiscal year thereafter.

(b) Appropriations made pursuant to the authority provided in subsection (a) of this section shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the acts making such appropriations.

Mr. THOMAS of Utah. I move that the Senate disagree to the amendment of the House, ask a conference with the House on the disagreeing votes of the two Houses thereon, and that the Chair appoint the conferees on the part of the Senate.

The motion was agreed to; and the Vice President appointed Mr. THOMAS of Utah, Mr. MURRAY, Mr. LEHMAN, Mr. TAFT, and Mr. SMITH of New Jersey conferees on the part of the Senate.

AMENDMENT OF NATIONAL HOUSING ACT, AS AMENDED

The VICE PRESIDENT laid before the Senate the amendment of the House of Representatives to the bill (S. 2246) to amend the National Housing Act, as amended, and for other purposes, which

was, to strike out all after the enacting clause and insert:

That this act may be cited as the "Housing Act of 1950."

TITLE I—AMENDMENTS OF NATIONAL HOUSING ACT

AMENDMENTS OF TITLE I OF NATIONAL HOUSING ACT

SEC. 101. Section 2 of the National Housing Act, as amended, is hereby amended by striking out of the first sentence of subsection (a) "July 1, 1939, and prior to," and by striking out the second sentence of said subsection and inserting the following in lieu of said sentence: "In no case shall the insurance granted under this section to any such financial institution exceed the amount herein prescribed as the insurance reserve of such financial institution. Such insurance reserve shall be an amount equivalent to 10 percent of the amount of all such loans, advances of credit, and purchases made by such financial institution on or after March 1, 1950 (according to the records of the Commissioner at the date claim for reimbursement of loss is approved for payment by the Commissioner), less the amount of all claims approved for payment by the Commissioner in connection with such loans, advances of credit, and purchases: *Provided*, That the amount of the insurance reserve, if any, to the credit of any such financial institution shall be adjusted on January 1, 1953, and on the first day of each semiannual period thereafter by deducting therefrom an amount equal to one-fifth of the amount of such insurance reserve on the records of the Commissioner as of the date of such adjustment: *And provided further*, That no such adjustment shall be made in the insurance reserve of any financial institution until the 1st day of January or the 1st day of July next following the expiration of a period of 30 months after the issuance of a contract of insurance to such institution by the Commissioner, and no such adjustment shall be made in the insurance reserve of any financial institution after the termination of the contract of insurance issued to such institution by the Commissioner." *Provided*, That this paragraph shall become effective March 1, 1950.

AMENDMENTS OF TITLE II OF NATIONAL HOUSING ACT

SEC. 102. Section 203 (a) of said act, as amended, is hereby amended by striking out the proviso "\$6,000,000,000" and inserting in lieu thereof "\$8,000,000,000" and by striking out "\$6,750,000,000" and inserting in lieu thereof "\$9,500,000,000."

SEC. 103. Section 207 (b) of said act, as amended, is hereby amended by adding the following new paragraphs at the end thereof:

"The insurance of mortgages under this section is intended to facilitate particularly the production of rental accommodations, at reasonable rents, of design and size suitable for family living. The Commissioner is, therefore, authorized and directed in the administration of this section to take action, by regulation or otherwise, which will direct the benefits of mortgage insurance hereunder primarily to those projects which make adequate provision for families with children, and in which every effort has been made to achieve moderate rental charges.

"Notwithstanding any other provisions of this section, every mortgage insured hereunder shall contain a provision that in selecting tenants for the property covered by the mortgage the owner will not discriminate against any family by reason of the fact that there are children in the family, and that he will not sell the property while the insurance is in effect unless the purchaser

so undertakes in writing and files such agreement with the Commissioner. Violation of any such provision or undertaking shall constitute a default in the terms of the mortgage, permitting calling the entire balance due and permitting foreclosure."

SEC. 104. Section 207 (c) of said act, as amended, is hereby amended—

(1) By amending paragraph No. (2) to read as follows:

"(2) not to exceed the sum of (i) 90 percent of that portion of the estimated value of the property or project (when the proposed improvements are completed) which does not exceed \$7,000 per family unit and (ii) 60 percent of such estimated value in excess of \$7,000 and not in excess of \$10,000 per family unit: *Provided*, That except with respect to a mortgage executed by a mortgagor coming within the provisions of paragraph No. (b) (1) of this section, such mortgage shall not exceed the amount which the Commissioner estimates will be the cost of the completed physical improvements on the property or project exclusive of public utilities and streets and organization and legal expenses: *And provided further*, That the above limitations in this paragraph (2) shall not apply to mortgages on housing in the Territory of Alaska, but such a mortgage may involve a principal obligation in an amount not to exceed 90 percent of the amount which the Commissioner estimates will be the replacement cost of the property or project when the proposed improvements are completed (the value of the property or project as such term is used in this paragraph may include the land, the proposed physical improvements, utilities within the boundaries of the property or project, architect's fees, taxes and interest accruing during construction, and other miscellaneous charges incident to construction and approved by the Commissioner.); and";

(2) By amending paragraph numbered (3) to read as follows:

"(3) not to exceed \$8,100 per family unit (or \$7,500 per family unit if the number of rooms in such property or project does not equal or exceed 4½ per family unit) for such part of such property or project as may be attributable to dwelling use."; and

(3) By striking out of the first sentence of the last paragraph the words "except that with respect to mortgages insured under the provisions of the second proviso of paragraph numbered (2) of this subsection, which mortgages are hereby authorized to have a maturity not exceeding 40 years from the date of insurance of the mortgage, such interest rate shall not exceed 4 percent per annum."

SEC. 105. Section 207 (d) of said act, as amended, is hereby amended by striking out of the proviso the words "one-half of."

SEC. 106. Section 207 (g) of said act, as amended, is hereby amended—

(1) By striking out of clause (C) in the second sentence the words "preservation of the property" and inserting in lieu thereof "preservation of the property and any mortgage insurance premiums paid after default"; and

(2) By striking out the proviso in the last sentence thereof and inserting the following: "*Provided*, That the mortgagee in the event of a default under the mortgage may, at its option and in accordance with regulations of, and in a period to be determined by the commissioner, proceed to foreclose on and obtain possession of or otherwise acquire such property from the mortgagor after default, and receive the benefits of the insurance as herein provided, upon (1) the prompt conveyance to the commissioner of title to the property which meets the requirements of the rules and regulations of the commissioner in force at the time the mortgage was

Liquor Ads Are Degrading and Flaunt Temptation in the Faces of Our Children

EXTENSION OF REMARKS OF

HON. COMPTON I. WHITE

OF IDAHO

IN THE HOUSE OF REPRESENTATIVES
Monday, March 27, 1950

Mr. WHITE of Idaho. Mr. Speaker, there are companion bills before Congress to bar liquor advertisements. Senate bill 1847 and House bill 2428 which have my unqualified support, as I have stated in the hearing before the Senate Committee in charge of the legislation which is inserted here for the consideration of my colleagues H. R. 2428:

STATEMENT OF HON. COMPTON I. WHITE IN HEARINGS BEFORE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

Mr. WHITE. Mr. Chairman, for the purpose of the record, I am COMPTON I. WHITE, Member of Congress from the first district of Idaho.

Mr. Chairman, I am very much opposed to our magazines and publications and radio carrying liquor advertisements. I am in full support of the bill under consideration by this committee.

One of the most distressing and discouraging things you find in our civilization today, particularly in our everyday life, is to find some fine young man whose father is taking great pains in raising and educating him, and he is ready to go into business, and probably gets married, becoming a liquor addict and is unable to control his appetite that is fastened upon him.

I want to commend the good work that is being done by the Alcoholics Anonymous, the AA, to assist these men, young folks, and immature people, to overcome that habit. They cooperate and lend their support, and they are doing a wonderful work, and I do not see why we should permit advertising to induce people and lure people to become addicts of liquor. There is temptation enough without having these luring advertisements we find in the magazines—expensive advertisements, I may say, that appear in these national periodicals and on the radios. I think that this bill is a step in the right direction, that we should curtail and eliminate those advertisements.

If you and I had a constructive project to finance, if we wanted to advertise, if we needed venture capital to develop a mine or to develop any industry, the SEC would step in and under their present rules in effect today absolutely make it impossible for you to make any public announcement, or advertise, in any way obtain capital to employ people and build a worth-while industry. Try it if you want to see.

The SEC will tell me "If you want to put any advertisements out you must print your whole prospectus." You must use two or three sheets of the newspaper to advertise, if advertise at all.

But when you come to liquor you can go out and put in these attractive illustrated advertisement, these allurements, if you please, to fasten this destructive habit on the people, and I am opposed to it.

I think if we are going to enforce regulations that prevent people from advertising constructive industry and constructive project, as the Securities and Exchange Commission is doing, certainly we cannot permit

these breweries and these distilleries to advertise a product that fastens degrading habits on the people such as it does. For that reason I am very much in favor of this legislation.

I thank you.

The CHAIRMAN. Thank you, Congressman.

New England Workers Pay the Price in Jobs

EXTENSION OF REMARKS OF

HON. ANTONI N. SADLAK

OF CONNECTICUT

IN THE HOUSE OF REPRESENTATIVES
Monday, March 27, 1950

Mr. SADLAK. Mr. Speaker, it is becoming increasingly apparent with each passing day that the cut-throat foreign competition provided by the importation of goods manufactured abroad is costing us a pretty price. As the alarming aspects of our foreign-trade policy begin to open the eyes of the American worker the fact is brought conspicuously to the forefront that the inevitable injury caused by growing imports is not confined to just a few industries. It is definitely encroaching on other areas of our economy.

The oft-repeated, yet unassailable truth is that American workers cannot compete with the low wages paid in other countries. Excessive imports can mean only one thing. The administration prefers to risk the closing of our factories. It seemingly remains unconcerned about the much-dreaded picture of men without jobs, a condition it is now in the process of creating.

Connecticut and New England with its concentration of industries are faced with the paying of a terrific toll in jobs lost, if the flow of foreign-made products continues unchecked. The indiscriminate, ill-conceived administration foreign-trade program is doing one thing that is definite. It is starting American workers on a discouraging march for jobs that will soon be nowhere available.

Under leave to extend my remarks in the RECORD, I include the following article from the New Haven Register of March 24, 1950, which gives some indication of the damaging effect upon one of New England's great industries by low-wage foreign competition:

CHEAP IMPORTS HELD HARMFUL TO JEWELRY TRADE

PROVIDENCE, R. I., March 24.—An official of the New England Manufacturing Jewelers' and Silversmiths' Association says "a flood of foreign merchandise produced by low paid, substandard workers" is pouring into this country.

George R. Frankovitch, executive secretary of the association, told the New England council's committee on economic research last night the United States is encouraging import of merchandise from prewar competitors.

Frankovitch declared:

"Produced under conditions unthinkable in Rhode Island, Massachusetts, and Connecticut, the pearl industry of Japan is again sweeping away the jobs of pearl workers in New England.

"Slave or nearly slave labor in Czechoslovakia is again producing a cheap-type jewelry that is slowly stilling the machines of the New England plants."

Frankovitch described New England as one of the greatest jewelry manufacturing centers the world over.

He said that more than half of the industry's 80,000 workers in the United States are employed in New England. Most of the others he said work in the New York-New Jersey area.

He reported that Rhode Island is the greatest jewelry producing State in the country, while entire communities southeast of Massachusetts are totally dependent on the manufacturing jewelry industry for their livelihood.

Frankovitch attacked the 20 percent luxury tax on jewelry and declared that it has been the greatest detriment to full employment, greater stability, and general prosperity in the jewelry industry.

National Science Foundation

SPEECH

OF

HON. ROBERT CROSSER

OF OHIO

IN THE HOUSE OF REPRESENTATIVES

Monday, February 27, 1950

The House had under consideration House Resolution 321, to provide for the consideration of the bill (H. R. 4846) to promote the progress of science; to advance the public health, prosperity, and welfare; to secure the national defense; and for other purposes.

Mr. CROSSER. Mr. Speaker, in support of the pending resolution, I desire to call attention to the long history of hearings and favorable actions taken by both Houses of the Congress with respect to National Science Foundation legislation.

In July 1946, during the Seventy-ninth Congress, a science foundation bill passed the Senate, but the House was unable, due to the pressure of business, to reach this legislation. During the first session of the Eightieth Congress both Houses of Congress passed a science foundation bill.

This bill, however, died by pocket veto because of administrative objections that the President entertained. He expressed regret, because otherwise he was favorable to the bill.

During the second session of the Eightieth Congress the Senate again passed a science foundation bill. The House Interstate and Foreign Commerce Committee favorably reported such a bill to the floor, but due to the pressure of other business it did not receive consideration by the House. Finally, during the present session, the Senate passed unanimously a science foundation bill, which is substantially identical with H. R. 4846 now before the House, which this resolution would bring up for consideration.

Mr. PRIEST, chairman of the Subcommittee on Public Health, Science and Commerce of the Committee on Interstate and Foreign Commerce, introduced this bill and presided over the hearings conducted by the subcommittee. He

will explain in detail the provisions of the measure.

I desire to urge very earnestly upon the House that the House vote favorably to consider House Resolution 321 in order that the House may have an opportunity to consider H. R. 4846, the National Science Foundation bill, to which I have already referred.

Mr. Speaker, I yield 30 minutes to the gentleman from New Jersey [Mr. WOLVERTON].

Small Businesses

EXTENSION OF REMARKS

OF

HON. THOMAS J. LANE

OF MASSACHUSETTS

IN THE HOUSE OF REPRESENTATIVES

Monday, March 27, 1950

Mr. LANE. Mr. Speaker, I wish to insert the following statement of Mr. S. Abbott Smith, of the Thomas Strahan Co., manufacturers of fine wall decorations, Chelsea, Mass., presented in behalf of the Small Business Association of New England, Inc., before a meeting of the New England Senators and Congressmen, and officers and principal committee chairmen of that organization held in room 18 in the Capitol Building on Monday, March 27, 1950.

This statement is most interesting, enlightening, and helpful, as a step in the right direction to assist and improve small business in New England and to help and relieve the serious unemployment situation in that section of the country:

Gentlemen, we very much appreciate your coming here this morning and giving us this opportunity to present our views on these important problems facing small business. At the same time, we hope these meetings may be profitable to you also in obtaining a boiled-down picture of the feelings of many of your constituents.

My subject is the great need of small businesses all over the country for adequate long-term and equity capital financing. That this need is increasing all the time is evidenced by the increasing number of applications to the RFC, by the hundreds of applications to the American Research and Development Corp. in Boston, and by our own personal contacts. I do not doubt but what your own mail tells you the story directly. All this is still further corroborated by the statement of Senator O'MAHONEY, chairman of the Joint Economic Committee, that the burden of the testimony before the Investment Subcommittee was that while private savings are at record-breaking levels, our private-enterprise system is starving for lack of debt and equity capital. The pressure is building up for supplying this capital from Government funds. Most of us, however, feel that such moves are unsound and will probably not be satisfactory.

Our banks seem to be adequately taking care of the short-term financing needs of our businesses but most of them stop there. The Bank of America is apparently doing an outstanding job on the west coast, going much farther. Some individual banks in New England are doing a good job, too, but in general all too many of our banks have

become repositories for their depositors' money rather than performing what used to be considered full-banking functions. They are quite right when they say it is not the job of a commercial bank to supply equity capital; there is a very real question as to how long maturities they ought to allow on loans and what security should be required. All this merely accentuates the wide gap between the financing needed by business and what is being supplied by the banks.

The RFC has been of help to some small businesses but its loaning abilities are restricted, its purpose is not to lend equity capital and it very obviously is not filling the need. Furthermore, if it can possibly be done, we should prefer to see this financing come from private sources rather than be done with Government money.

Just why do we have this paradox of the greatest accumulation of savings in history and yet the dearth of long-term and equity capital for small businesses? The answer lies fundamentally, I believe, in our present tax structure. The quickest and best solution to the financing problem would be to reduce taxes, let companies plow back their earnings, eliminate the double tax on dividends. If you want hosts of new small businesses, just eliminate all taxes on profits and dividends from new small businesses for say the first 5 or 10 years.

If the reward is proportionate to the risk, you will no longer have to worry about a lack of equity capital.

Obviously, in view of our present budgetary situation, the above steps cannot be taken all at once anyway so instead of attacking the root of our trouble, we have to find some way, in spite of the present tax structure, to provide at least partially the long-term and equity financing needed by our New England small businesses—and preferably from private sources.

Last year, you will remember, we suggested that a capital bank might be one of the answers. It has been amazing and pleasing to see the swing of sentiment in many quarters in favor of such a plan. All this sentiment was crystallized a few weeks ago when Senator O'MAHONEY introduced in the Senate, S. 2975.

This bill would amend the Federal Reserve Act and authorize the creation of the 36 such banks, 1 in each Federal Reserve or Federal Reserve branch district. No Federal appropriations or guaranties are involved but this bill would provide a means for channeling some of the funds of the commercial banks, savings banks, life insurance companies and other financial institutions, as well as those of individuals, into local small businesses. All of these sources are expected to supply the initial capital by buying the original stock.

The capital banks would be a part of the Federal Reserve System and under the general supervision of the Federal Reserve Board. Each bank would have a board of directors of nine men, three appointed by the Federal Reserve bank in the district from the public and six by the stockholders.

The general powers of the capital banks would be to:

1. Insure loans by banks to small businesses up to \$10,000 each and 5 years maturity.
2. Make loans direct to small businesses or buy obligations of small businesses from banks and other institutions.
3. Purchase equity or other securities of small businesses.
4. Purchase shares of local industrial development corporations which specialize in furnishing venture capital for new businesses. Such purchases would be limited to 5 percent of the capital, surplus, and authorized indebtedness of each corporation.

There are various other qualifications of the above powers, but there is no need to go into more detail now.

Applications to the capital bank for financing would be initiated through the local banks and other cooperating institutions. In this way the usual local bank-customer relationship which is so desirable will not be disrupted. Furthermore you will observe that the capital bank picks up where the local commercial bank generally stops, i. e., at long-term and equity financing, thus filling that gap which has become so glaringly apparent.

Personally I believe that a capital bank can and will be profitable if properly managed. However, Senator O'MAHONEY offers an additional inducement to the investors in this bank: It and its income will be exempt from Federal State, and municipal taxes (except on real property) for a period of 15 years. Parenthetically it seems to me this provision backs up my original suggestion as to how to really supply small business with plenty of equity capital.

The bill also provides that the capital banks shall use the facilities of the Federal Reserve System and the Department of Commerce and shall provide consulting and advising services on a fee basis.

That, gentlemen, is a very brief statement of a very big subject. We hope each of you will study this bill carefully because, although not perfect by any means, we do think it along the right lines. Considerable discretion and latitude must be left to the directors of such banks because experience will undoubtedly show the need for changes not now foreseen. The main thing is to get started.

This subject is of particular importance to us in New England. New England money financed the development of a great deal of the United States in many fields, yet today our own little businesses cannot obtain the financing they need. Money is today being pumped out of New England pockets by Federal taxes to irrigate western sands to produce more of what, in many cases, we already have too much of. Our money is being used to develop other parts of the country which at the same time are enticing our men and businesses away from us.

Last Friday I participated in a panel discussion at the New England Council quarterly meeting in Providence on the subject of community industrial financing. Other parts of the country are way ahead of us. We must wake up and mobilize our resources to see to it that our New England businesses get the financing they need, the new equipment and buildings they must have to compete successfully. We must encourage our young men and develop new ideas, not just coast along on ideas which have now grown old.

The development of New England has always gone in cycles. When the clipper-ship era passed, we pioneered and developed textiles, shoes, and other industrial enterprises. Now those are slipping, but new ideas are flowing in streams from our research factories along the Charles River as well as from our thousands of businesses throughout New England. We must see to it that those ideas do not die aborning or move elsewhere just for lack of financing here.

We need a Capital bank run by men of vision and keen financial judgment, cognizant of and sympathetic with the needs of small businesses. Such men with these facilities will put new vigor into our New England businesses and New England communities. Therefore, we hope that a bill similar to S. 2975, perhaps better, will be introduced in the House.

We urge you to study this bill. Improve it if you can. Give it your whole-hearted support. We must have long-term and equity financing.

House of Representatives

TUESDAY, MARCH 28, 1950

The House met at 12 o'clock noon.

The Chaplain, Rev. Bernard Braskamp, D. D., offered the following prayer:

O Thou who art the guiding spirit in the life of men and of nations, we rejoice that we have the testimony of a countless number of yesterdays that where Thou dost lead Thou wilt also provide.

Grant that with courage and confidence we may choose the paths which Thou hast marked out for us, for he who followeth Thee shall not walk in darkness but shall have the light of life.

We pray that all who hold positions of leadership in the affairs of government may be the honored servants of the Lord in directing our Nation in the ways of righteousness and peace.

Hear us in the name of the Christ who proclaimed Himself to be the way, the truth, and the life. Amen.

THE JOURNAL

The Journal of the proceedings of yesterday was read and approved.

MESSAGE FROM THE SENATE

A message from the Senate, by Mr. Carrell, one of its clerks, announced that the Senate disagrees to the amendment of the House to the bill (S. 2246) entitled "An act to amend the National Housing Act, as amended, and for other purposes," requests a conference with the House on the disagreeing votes of the two Houses thereon, and appoints Mr. MAYBANK, Mr. SPARKMAN, Mr. DOUGLAS, Mr. FLANDERS, and Mr. BRICKER to be the conferees on the part of the Senate.

The message also announced that the Senate disagrees to the amendment of the House to the bill (S. 247) entitled "An act to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes," requests a conference with the House on the disagreeing votes of the two Houses thereon, and appoints Mr. THOMAS of Utah, Mr. MURRAY, Mr. LEHMAN, Mr. TAFT, and Mr. SMITH of New Jersey to be the conferees on the part of the Senate.

HOUSING ACT OF 1950

Mr. SPENCE. Mr. Speaker, I ask unanimous consent to take from the Speaker's table the bill (S. 2246) to amend the National Housing Act, as amended, and for other purposes, with a House amendment thereto, insist on the House amendment, and agree to the conference asked by the Senate.

The Clerk read the title of the bill.

The SPEAKER. Is there objection to the request of the gentleman from Kentucky? [After a pause.] The Chair hears none, and appoints the following conferees: Messrs. SPENCE, BROWN of

Georgia, PATMAN, HAYS of Arkansas, WOLCOTT, GAMBLE and TALLE.

NATIONAL SCIENCE FOUNDATION ACT

Mr. PRIEST. Mr. Speaker, I ask unanimous consent to take from the Speaker's desk the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, with a House amendment thereto, insist on the House amendment, and agree to the conference asked by the Senate.

The Clerk read the title of the bill.

The SPEAKER. Is there objection to the request of the gentleman from Tennessee? [After a pause.] The Chair hears none, and appoints the following conferees: Messrs. PRIEST, BIE-MILLER, WILSON of Oklahoma, HINSHAW, and O'HARA of Minnesota.

COMMITTEE ON EDUCATION AND LABOR

Mr. LESINSKI. Mr. Speaker, I ask unanimous consent that a subcommittee of the Committee on Education and Labor be permitted to sit this week during general debate or when the House is not in session.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

Mr. MARTIN of Massachusetts. Reserving the right to object, Mr. Speaker, what bill is the subcommittee considering?

Mr. LESINSKI. It is H. R. 1551, a construction bill.

The SPEAKER. Is there objection to the request of the gentleman from Michigan?

There was no objection.

EXTENSION OF REMARKS

Mr. KELLEY of Pennsylvania asked and was given permission to extend his remarks at this point in the Record.

Mr. KELLEY of Pennsylvania. Mr. Speaker, my constituents are asking about the restriction on television service in western Pennsylvania. It is not an isolated case, inasmuch as many of my colleagues have similar situations in their own districts, and I believe we should make some effort to have this condition resolved to the satisfaction of those citizens who are being deprived of many of the wonders of television.

Although there are seven applications from greater Pittsburgh in the Federal Communications Commission files, there is just one TV outlet in that area—the very area that produced the world's pioneer radio broadcasting station.

The FCC has frozen licenses until further studies on television are completed. I do not question the sincerity of the Commission in its ruling, which to

all intents and purposes is to protect the consumer from investing in apparatus that may soon become obsolete. But I do take issue with the reasoning behind the ruling.

Certainly, there is going to be rapid progress in television. The more than 4,500,000 sets now in American homes will be considered old models a few years hence. So will there be considerable progress in the manufacture of automobiles, but would anyone who can afford it want to do without a car merely because remarkable improvements are expected later?

Television receivers have gradually been reduced in price to a point where many families of moderate income can afford them. The TV phenomenon is becoming an effective medium of keeping the family circle intact in the evenings, and this in itself is a high tribute to the infant industry. It is my belief that we should encourage the growth of this industry in every way rather than impair it as we are now doing through the freeze on new stations.

Mr. RICH asked and was given permission to extend his remarks at this point in the Record.

LET US GET REAL ECONOMY IN GOVERNMENT

Mr. RICH. Mr. Speaker, I often wonder what would happen to the families of the United States if the housewives ran their homes in the same manner as the executive department manages the Government.

A good example of what I mean was given by Jess Larson, the General Services Administrator, in his recent testimony before a House Appropriations Subcommittee. Mr. Larson said his men had found in a single warehouse of a single unidentified Government agency a supply of fluorescent light tubes that would last for 93 years, a supply of ruled filler paper that would last 168 years, a supply of tracing cloth that would last 9 years, and a supply of loose-leaf binders that would last 247 years.

We have a good-size kitchen in our home, and I have tried to visualize a 247-year supply of bean soup—the same kind that is served here in the Capitol. I just cannot do it. When I try to picture the number of cans of bean soup that would last our family 247 years I am overwhelmed. I see cans of bean soup stacked up to the ceiling of the kitchen. I see our dining room out of commission because it is jammed to the rafters with bean soup. I see our living room overflowing with bean soup and I see bean soup lapping at the top stairs to our second floor. I see bean soup driving us from our home and hearthside.

But are these incredible overstocks rare in the Government? Not at all. Mr. Larson told the subcommittee:

This situation is general throughout the Government in a lot of instances.

EXTENSION OF REMARKS

Mr. HESELTON asked and was given permission to extend his remarks at this point in the RECORD.

Mr. HESELTON. Mr. Speaker, I just sent the President the following telegram:

MARCH 28, 1950.

THE PRESIDENT,
Winter White House,
Key West, Fla.:

I am sending you under separate cover a potato. I hope it will serve as a vivid reminder that you have taken no action to this time to remedy the outrageous situation arising from the lack of any constructive program as to the disposal of surplus potatoes and other food commodities. I realize this is a cold potato, but I can assure you that the issue is a very hot one. I beg that you take some action under existing law immediately. Total loss to date on storage of these food commodities alone is \$3,300,000.

JOHN W. HESELTON,
Member of Congress.

I am delighted to report that yesterday I was advised that a meeting of representatives of CARE and the Friends' Society resulted in approval of H. R. 7137 and the companion bills. However, they wish to have consideration given to the possibility of paying freight overseas in certain instances and suggest waiving the requirement of confining transportation costs to the equivalent of 6 months' storage charges.

This morning I received the welcome further message from the National Grange that a policy meeting was held yesterday afternoon and that the decision was made to support these bills and that representatives stand ready to appear at a hearing before the Committee on Agriculture.

It is inevitable that if the full facts become known to the American people and their outstanding charitable and civic organizations they will launch an avalanche of demands for prompt action to end this appalling waste of both food and money.

Mr. EBERHARTER asked and was given permission to extend his remarks at this point in the RECORD.

SOCIAL SECURITY FOR WIDOWS AND ORPHANS

Mr. EBERHARTER. Mr. Speaker, on March 15 the gentleman from Nebraska [Mr. CURTIS] on the floor of the House shed a lot of crocodile tears about the poor widows and orphans who were not covered under the Federal old-age and survivors insurance program because the widows' husband died before the social-security law was enacted. The gentleman from Nebraska [Mr. CURTIS] neglects to point out that, if the Republicans would have had their way, there would be no widows or orphans at all receiving insurance benefits today. In 1935, when the insurance program was first considered in Congress, the Republican members of the Ways and Means Committee opposed the establishment of the insur-

ance program. It was called socialistic. The Republicans at that time favored providing assistance to widows and orphans only on the basis of relief.

The gentleman from Nebraska [Mr. CURTIS] is a member of the Ways and Means Committee, but when social security was being considered last year did he make any motion or offer any amendment in committee or on the floor to bring in all widows and orphans for benefits, or has he introduced any bill since that time to do so? Now he is shedding crocodile tears for the widows and orphans. The question I would like him to answer is, Did you lift a finger to remedy the situation at the time the legislation was being considered?

This is the usual Republican line: To criticize, but never do anything constructive to try to improve our social-security legislation.

EXTENSION OF REMARKS

Mr. O'BRIEN of Michigan asked and was given permission to extend his remarks.

Mr. LANE asked and was given permission to extend his remarks in two instances and include extraneous matter.

Mr. EVINS asked and was given permission to extend his remarks in two instances and include an editorial and a brief speech by the Assistant Secretary of the Air Force.

Mr. BARTLETT asked and was given permission to extend his remarks and include an editorial.

Mr. PRICE asked and was given permission to extend his remarks in four instances and include in three an editorial and in the fourth a letter.

Mr. ZABLOCKI asked and was given permission to extend his remarks and include an editorial.

Mr. HOWELL asked and was given permission to extend his remarks and include a speech.

Mr. JACOBS asked and was given permission to extend his remarks in six instances and in each to include extraneous matter.

Mr. REDDEN asked and was given permission to extend his remarks and include an editorial.

Mr. WOODRUFF asked and was given permission to extend his remarks and include an article by Representative Mason which appeared in Reader's Digest.

Mr. MCGREGOR asked and was given permission to extend his remarks in three instances and in each to include newspaper articles.

Mr. HESELTON asked and was given permission to extend his remarks in two instances and in each to include newspaper editorials.

Mr. MILLER of Maryland asked and was given permission to extend his remarks and include an editorial from the Washington Post.

Mr. WADSWORTH asked and was given permission to extend his remarks and include a letter written by Mr. Henry L. Stimson, former Secretary of War, as published in the New York Times of March 27.

Mr. DAVIS of Wisconsin asked and was given permission to extend his re-

marks and include the text of an address made by him at Madison, Wis., on Saturday.

Mr. LOVRE asked and was given permission to extend his remarks and include a letter.

Mr. PATTERSON asked and was given permission to extend his remarks and include a letter written to the editor of the Washington Post.

Mr. HILL asked and was given permission to extend his remarks and include an article.

Mr. MACY asked and was given permission to extend his remarks and include a statement.

Mr. SMITH of Wisconsin asked and was given permission to extend his remarks in three instances and in each to include extraneous matter.

CALL OF THE HOUSE

Mr. SMITH of Wisconsin. Mr. Speaker, I make the point of order that a quorum is not present.

The SPEAKER. Evidently a quorum is not present.

Mr. MCCORMACK. Mr. Speaker, I move a call of the House.

A call of the House was ordered.

The Clerk called the roll, and the following Members failed to answer to their names:

[Roll No. 120]

Barden	Harden	Potter
Baring	Havener	Powell
Bennett, Mich.	Hébert	Reed, N. Y.
Boggs, La.	Herter	Ribicoff
Buckley, Ill.	Hoffman, Ill.	Rivers
Bulwinkle	Jackson, Calif.	Sabath
Burdick	Jackson, Wash.	Sadowski
Burke	Jenison	Scott, Hardie
Carroll	Judd	Sheppard
Chatham	Kearney	Smathers
Cole, Kans.	Kennedy	Smith, Ohio
Crawford	Kruse	Staggers
Dague	Kunkel	Stanley
Dawson	Lyle	Tackett
Dingell	Miles	Taylor
Douglas	Monroney	Wheeler
Durham	Morrison	Whitaker
Fellows	Murphy	White, Idaho
Fenton	Nelson	Widnall
Gilmer	Nicholson	Wilson, Ind.
Gore	Nixon	Withrow
Gossett	Norblad	Wolcott
Grant	Norton	Woodhouse
Hall,	Patman	Worley
Edwin Arthur	Patten	
Hand	Plumley	

The SPEAKER. On this roll call 340 Members have answered to their names, a quorum.

By unanimous consent, further proceedings under the call were dispensed with.

MEMORIAL SERVICES

Mr. REGAN. Mr. Speaker, I offer a resolution (H. Res. 521) and ask for its immediate consideration.

The Clerk read the resolution, as follows:

Resolved, That on Wednesday, the 17th day of May 1950, immediately after the approval of the Journal, the House shall stand in recess for the purpose of holding memorial services as arranged by the Committee on House Administration under the provisions of clause (1) (j), (2) (C) of rule XI of the Rules of the House of Representatives. The order of exercises and proceedings of the service shall be printed in the CONGRESSIONAL RECORD on the life, character, and public service of deceased Members. At the conclusion of the proceedings, the Speaker shall call the House to order and then as a fur-

Swiss lines, making them colorful additions to the rural scene.

Following in alphabetical order are the Green County factories which have modernized in the last 2 years:

Swiss, Advance, route 5, Monroe; Apple Grove, route 1, Argyle; Bails Mill, route 2, Monroe; Billingsmaier-Isely, route 4, Monroe; Biggs Co-op, northeast of Argyle; Brager, northeast of Blanchardville; Burkhalter, route 2, Monroe; Davis, Browntown; Decatur, west of Brodhead; Dill, west of Browntown.

Fairview, route 1, Monroe; Farmers Grove, route 1, New Glarus; Five Corners, southeast of Monroe; Flanagan-Olson, east of Argyle; Franklin, route 1, Monroe; Giese, southwest of Brodhead; Green County Co-op, Monroe; Gutzmer, east of Woodford; Hay Hollow, east of Blanchardville; Health Valley, near Juda; Holstein Prairie, west of Monticello; Casper Jaggi, Brodhead; Jefferson Center, Twin Grove; Jordan Center, northwest of Monroe.

Jordan Prairie, northwest of Brodhead; Klondike, northwest of Monroe; Krause, route 4, Monroe; Kubly, route 1, Monroe; Maple Grove, southeast of Juda; Maple Leaf, route 1, Albany; Monroe Co-op, Monroe; Monticello North Side; Newman, southeast of Juda; Pleasant Valley, route 3, Monroe; Poplar Grove, west of New Glarus (not making Swiss in 1949 but licensed); Prairie Hill, route 5, Monroe; Priewe, route 1, Monroe; Puddle Dock, east of Argyle; Ridge, northwest of Monroe.

Rock Hill, route 2, Brodhead; Saw Mill, east of Blanchardville; (licensed but not making Swiss in 1949); Speck, west of Browntown; Speich, route 2, Monroe; Spring Creek, route 2, Brodhead; F. L. Stauffacher, route 4, Monroe; Strommen, near Blanchardville; Town Hall, route 2, Monticello; Twin Gable, Martintown; Union Hill, route 1, Juda; Walnut Grove, east of Blanchardville; West Clarno, route 1, Monroe.

Whitehead, route 1, Monroe; White Oak, route 2, Monroe; York Center, east of Blanchardville, and York Prairie, northeast of Blanchardville.

Limburger: Clarno Center, route 5, Monroe (also licensed but not making Swiss); Grinnell, north of Monroe; Wyss (Kraft Foods licensee), north of Monroe; Milwaukee Cheese, Monroe (also licensed but not making Swiss—producing brick type special cheese); Pioneer, route 2, Monticello; Silver and Lewis, east of Monticello; Spring Cheese, route 1, Monticello; Wittenwyler-Burgy, southwest of Monticello; Wuetrich (Four Corners), 6 miles northeast of Monroe.

There were 63 factories in Green County making Swiss October 1, not including four others licensed but producing other types. One Swiss factory license north of Browntown was withdrawn shortly before the list was compiled. Eleven factories are licensed for limburger and 10 hold American permits. One factory, Poplar Grove, is licensed for brick muenster.

Lakeshire-Marty Co. holds the only processed cheese license for Swiss Gruyere. One firm, Paul Grossenbacher, New Glarus, holds a cheese food compound license.

Three factories have butter-plant licenses and there are condenser permits at New Glarus, Albany, and Browntown, the latter also holding a powdered-milk permit. Frautschy and Herbert Clarno, have the only milk-receiving-station license.

That completes the present day report on Green County's foreign-type cheese industry, except for the number of kettles in the Swiss plants. This figure has changed so rapidly since 1947 that a definite total would be good only as of the moment. It is believed, however, that more than 450 kettles are now set up in various plants with more envisioned.

With this report, the series on Swiss cheese's 80 years of production development comes to a close. The Green County cheese

story, however, will remain an unending history with bright pages in the future.

It will have that encouraging prospect if today's heirs of nineteenth century tradition contribute their share to continued advancement of dairy farming, and to an industry which has premium appeal throughout the Nation.

STEINMAN DAIRY TOLD STORY OF PIONEERING

Green County historians of the future owe a great debt to the memory and diary of J. C. Steinman who in his twilight years answered a question too long unasked:

"Where would one go to establish the exact location of the first Green County cheese factory turning out a product having a cash value in an outside market so a tablet could be erected to honor the men whose vision launched Green County's dairy business?"

The question was asked by Emery A. Odell, publisher of the Monroe Evening Times. Mr. Steinman who had kept a daily diary for 40 years had the answers. As a boy of 14 he had worked on the J. C. Blum farm and delivered milk to the first Limburger factory a mile away on the Albert Babler (now Meadow Valley) farm.

His diary also supplied the location of the first Swiss cheese factory on the Dietrich Freitag farm.

Mr. Steinman was 13 when he went to work at \$6 a month. His mother brought him to Monroe on his seventh birthday from New York after 57 days on the ocean. They learned his father had enlisted in the Civil War for what he thought was a short term of service while awaiting his family. He was killed in action. The mother and son joined an uncle in Monroe, Dietland Thomm, and then located later in Washington township.

When Mr. Steinman was 20 he became a Limburger-cheese maker for Jacob Karlen at Farmers Grove. Later he was in business in Monticello and an influential citizen. He served 13 years on the county board, 9 as county supervisor of assessment and bank director and was active in the Swiss Reformed Church at Monticello. He died in 1942 at the age of 88.

The boulders placed in 1939 at the two factory sites by the Green County Historical Society and Mr. Odell presented a problem. Native stone was sought but since the site of the first Limburger factory was in the unglaciated area, a boulder finally had to be brought from Monticello Woolen mill site.

Nazism is Still a Dominant Factor in Germany

EXTENSION OF REMARKS

OF

HON. ABRAHAM J. MULTER

OF NEW YORK

IN THE HOUSE OF REPRESENTATIVES

Tuesday, March 28, 1950

Mr. MULTER. Mr. Speaker, we hear all sorts of perturbing reports on conditions in Germany which make us wonder whether continued neglect of the situation may not prove to be tragic in the years to come. We hear reports about the revival of Nazism and anti-Semitism, reports on the trend toward dictatorship, the failure of our denazification policy, the lack of a sense of guilt and shame on the part of Germans for the horrible crimes committed during the recent war, and the ridiculous efforts to pin the blame for starting the war on the Allies or anyone but the Germans.

Dr. Saul K. Padover, a noted American author and historian, who knows conditions in Germany well and has served with the American Military Government there immediately after the war, has gathered some pertinent information on the trend of thinking in Germany today. Dr. Padover, who is dean of the School of Politics of the New School for Social Research in New York and the author of several books on Thomas Jefferson and on the European politics and history, draws some interesting conclusions on the basis of the information gathered.

Following is a brief article written by him entitled "Nazi Domination of the German Mind," published in Hadassah Newsletter, March 1950:

NAZI DOMINATION OF THE GERMAN MIND

(By Saul K. Padover)

Public-opinion surveys of Germany add up to a pretty discouraging picture. They show that in 1950 the Germans are much the same as they were 10 years ago. In some respects, indeed, they are worse.

Perhaps it was too much to expect that a defeated people would alter its ways and thought under the rule of conquerors; but the data contained in the surveys are almost too overwhelming as evidence of the nearly total failure of the occupation.

NO FAITH IN RADIO OR PRESS

The Germans believe in less and are distrustful of more. Nearly half of them do not listen to the radio, and only a little more than half, 56 percent, read newspapers, compared with 75 percent 4 years ago. Many have stopped reading the press because they have no confidence in its veracity or impartiality.

A large segment of the population is convinced that the occupying powers are a hindrance to German recovery. Shortly after the war, well over half of those interviewed thought that the Allies were there for the good of Germany. Today fewer than one-fourth (23 percent) think so.

There is no grass-roots political movement. Germans are still apathetic to politics in general and to politicians in particular. Political parties are viewed with skepticism and political officeholders with disrespect. Two out of three Germans say they would turn down a responsible political post if one were offered them. Sixty-four percent admit they are in no way interested in politics. During elections they vote in great numbers, but mainly because they are ordered to do so.

RACE BIAS AND NATIONALISM PERSIST

Race prejudice has shown some fluctuations. While anti-Semitism has declined slightly, racist and other bias has increased. Nineteen percent are still outspokenly anti-Semitic, despite the fact that the Jewish population has been reduced to a mere 20,000 as against 500,000 in 1933. Intense nationalist and racist feelings are stronger than ever.

An illuminating survey has been made on Hitler's *Mein Kampf*, which was in effect the bible of the Third Reich. But who really read it?

We now have exact information on the subject, and it tells us much about the German mind, politics, and social structure. The following data, to be sure, relates only to the American zone and Berlin, but it is a safe assumption that it reflects the rest of Germany.

To begin with, an astonishingly large number of Germans—19 percent—say that they have read all or part of *Mein Kampf*. On the basis of population of some 70,000,000, this means more than 13,000,000 readers. Of these, 5 percent, or 3,500,000, claim to have read the whole book.

Who were these readers? Forty-four percent of them were Nazi Party members. Three-fourths of them had nine or more years of education. Well over half (54 percent) belonged to the upper and upper-middle income groups. The majority of readers were professional men, businessmen and government officials.

TREND TO DICTATORSHIP, NOT DEMOCRACY

While Mein Kampf is not being read today, at least not openly, Nazism is still very much alive. In November 1945, 42 percent of those interviewed said that Hitlerism was a bad thing. Today, only 38 percent consider it bad.

Democracy—its principles and outlook—is an alien mode of life to most Germans. Sixty percent express the opinion that, if they had to choose between a democratic government that did not guarantee economic security, and a dictatorship that did, they would prefer the dictatorship. A year ago only 56 percent gave dictatorship as their preference.

There is no vigorous intellectual life, no soul searching, and no desire to examine what ails the nation. The overwhelming majority of Germans vehemently reject the charge, or even the suggestion, that the German people are responsible for the war or guilty of any crimes. If anybody is guilty, they say, it is a few Nazis and the Allies—for having allowed the Nazis to come to power. The Nazis, of course, say that the Allies are the criminals. Every trend indicates that most, if not all, Germans are ripe for a new dictator. What hope there is lies in the young people, and we are now, belatedly, trying to do something about them.

EAST-WEST RIVALRY REINSTATING THE NAZIS

What makes the situation more tragic is that both the Anglo-Americans and the Russians are now wooing the Germans. In the struggle between the east and the west, the enemy of a few years ago has suddenly become a desired object to be won and cherished. Denazification has been abandoned. The Americans are pinning their hopes for the success of the Marshall plan on a restored Germany. Nazi leadership, in business and in public life, is rapidly coming back. The Nazis are now winning the war.

The present Government of western Germany is not Nazi, but it is rigidly conservative. As such, it is not the kind of government that can democratize Germany.

An Eminent Scientist Analyzes the National Science Foundation Bill as Amended

EXTENSION OF REMARKS OF

HON. BARRATT O'HARA

OF ILLINOIS

IN THE HOUSE OF REPRESENTATIVES

Tuesday, March 28, 1950

Mr. O'HARA of Illinois. Mr. Speaker, among the scientists and educators of the Nation, as I have remarked on other occasions, there is a strong feeling that the great promise held forth both to our industrial development and our security by the National Science Foundation bill is sadly dimmed by the Smith amendment. This feeling is growing, and I am sure my colleagues would wish to give the subject further study in the light of the intelligent and well-considered objections raised in so many quarters of unquestioned loyalty.

Among the many letters on the matter received by me from my district, which includes the great University of Chicago, is the following from Joseph E. Mayer, of the faculty of the Institute for Nuclear Studies of the University of Chicago:

THE UNIVERSITY OF CHICAGO,
INSTITUTE FOR NUCLEAR STUDIES,
Chicago, Ill., March 27, 1950.

Hon. BARRATT O'HARA,
House Office Building,
Washington, D. C.

DEAR MR. O'HARA: The passage by both Houses of Congress of a bill establishing a National Science Research Foundation has been a source of great gratification to those interested in the strengthening of fundamental science of this country. We look forward with satisfaction to what we hope will become great benefits from this bill. Nevertheless, there are certain features of the bill which may not be ideal. In particular, some changes have been made by the House in the original bill, H. R. 4846, at least one of which, if retained, would be so undesirable as to be considered completely crippling.

I find section 14 (1), which requires FBI investigation and certification of loyalty by the FBI for recipients of scholarships and all persons employed by the foundation, to be incredibly bad as written at the present. The objections to this section are various.

(1) The broadening of the requirement of FBI investigation to recipients of scholarships independently of the eventual employment of these recipients in any classified work is a completely undesirable extension toward the methods of a police state, and is in direct opposition to our American democratic way of life.

(2) The extension of the duties of the FBI to include the investigation of a large number of people not connected with classified information necessarily reduces the effectiveness of the FBI in fulfilling its useful function of investigating persons who have access to secret information.

(3) The extension of the function of the FBI beyond that of investigation, to give certification of loyalty, will necessarily further reduce the usefulness of the FBI and at the same time is a completely undesirable unification of two different functions into the hands of one organization which smacks of the methods of totalitarian governments.

(4) The particular requirement placed on the FBI to declare disloyal any person who has at any time been a member of an organization declared subversive is an incredible extension of the definition of disloyalty. Many individuals have mistakenly and innocently joined such organizations either before or after they had been declared subversive. Indeed, in many cases these organizations, which sometimes had the highest aims, were in no sense subversive in their original inception and individuals who joined at that time and later resigned should not be penalized for the later changes in the conceptions of the organization.

I find that section 14 (m), which requires FBI investigation of any national of a foreign country who shall be associated with the Foundation in any capacity, to be very undesirable. It is probably not extremely important that National Science Foundation money shall be used to support the researches of foreign nationals in this country. However, the inclusion of this section would greatly complicate the operation of a university research project supported by the Foundation. The United States has profited greatly from foreign scientists who have come to this country either permanently or as temporary visitors. The temporary visitors bring to our research projects a knowledge of the methods used abroad and furnished tremendous stimulation to our own progress. There

is no reason why fundamental research projects in this country should be excluded from availing themselves of this benefit. Section 14 (m), if retained in the bill, would have only this effect.

Section 15 (a), which has been amended to limit the annual appropriation to the Foundation to \$15,000,000, appears to me to be unwise. I would not look forward to having the dominant source of funds for science in this country coming from the Federal Government. I would doubt if the Foundation appropriation should exceed \$15,000,000 in the first few years. However, the writing of this limitation into the law presumably excludes larger appropriations at later times. I believe that considerably larger appropriations will be eventually desirable. The present budget of the Office of Naval Research, spent largely on fundamental scientific research without any appropriation for scholarships, is approximately half this figure. I would believe that the Science Foundation should eventually support the great majority of these projects now supported by the ONR, which are in a field of science much more limited than that of the Science Foundation. The effect of the limitation to \$15,000,000 may well be to decrease the total Government support for research in the fundamental portions of physics and chemistry.

Section 10 (b), which requires a loyalty oath for any recipient for a scholarship or fellowship, appears to me to be undesirable. I do not believe that loyalty oaths play any role other than that of irritant. I do not find this amendment in any way crippling to the fundamental purposes of the bill, but I would oppose its retention.

Finally I find it undesirable that any provision is made for the National Science Foundation to support classified research. I believe that classified research should be supported by the appropriate division of the Secretary of National Defense and by the Atomic Energy Commission. The inclusion of support for classified research in the National Science Foundation in times of peace weakens and complicates the operation of that Foundation. I would prefer to have a scientific foundation even if it includes classified research than to have none at all, but I would prefer to see all reference to classified research eliminated from the bill.

Very sincerely yours,

JOSEPH E. MAYER.

Swiss Cheese Land in Wisconsin—No. 1

EXTENSION OF REMARKS OF

HON. LAWRENCE H. SMITH

OF WISCONSIN

IN THE HOUSE OF REPRESENTATIVES

Tuesday, March 28, 1950

Mr. SMITH of Wisconsin. Mr. Speaker, the dairy industry is Wisconsin's biggest business. It is composed of thousands of farmers who own and operate their farms.

Green County, Mr. Speaker, is in my congressional district, and I am very proud of it. Recently Mr. Emery A. Odell, publisher of the Monroe Evening Times, published a booklet entitled "Eighty Years of Swiss Cheese in Green County, 1869-1949." In a masterful way he has pointed out the development of this Swiss cheese industry in our State. He calls attention to the fact that dairying history appears to have reached the point where the past is more dependent

NATIONAL SCIENCE FOUNDATION ACT OF 1950

APRIL 26, 1950.—Ordered to be printed

Mr. PRIEST, from the committee of conference, submitted the following

CONFERENCE REPORT

[To accompany S. 247]

The committee of conference on the disagreeing votes of the two Houses on the amendment of the House to the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its disagreement to the amendment of the House and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the House amendment insert the following: *That this Act may be cited as the "National Science Foundation Act of 1950"*.

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. *There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation"). The Foundation shall consist of a National Science Board (hereinafter referred to as the "Board") and a Director.*

FUNCTIONS OF THE FOUNDATION

SEC. 3. (a) *The Foundation is authorized and directed—*

(1) *to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;*

(2) *to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;*

(3) *at the request of the Secretary of Defense, to initiate and support specific scientific research activities in connection with matters relating*

to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

(4) to award, as provided in section 10, scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) to evaluate scientific research programs undertaken by agencies of the Federal Government, and to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups;

(7) to establish such special commissions as the Board may from time to time deem necessary for the purposes of this Act; and

(8) to maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including its Territories and possessions.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

(c) The Foundation shall render an annual report to the President for submission on or before the 15th day of January of each year to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. Such report shall include (1) minority views and recommendations if any, of members of the Board, and (2) information as to the acquisition and disposition by the Foundation of any patents and patent rights.

NATIONAL SCIENCE BOARD

SEC. 4. (a) The Board shall consist of twenty-four members to be appointed by the President, by and with the advice and consent of the Senate, and of the Director *ex officio*, and shall, except as otherwise provided in this Act, exercise the authority granted to the Foundation by this Act. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, the Association of Land Grant Colleges and Universities, the National Association of State Universities, the Association of American Colleges, or by other scientific or educational organizations.

(b) The term of office of each voting member of the Board shall be six years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this

Act shall expire, as designated by the President at the time of appointment, eight at the end of two years, eight at the end of four years, and eight at the end of six years, after the date of enactment of this Act. Any person who has been a member of the Board for twelve consecutive years shall thereafter be ineligible for appointment during the two-year period following the expiration of such twelfth year.

(c) The President shall call the first meeting of the Board, at which the first order of business shall be the election of a chairman and a vice chairman.

(d) The Board shall meet annually on the first Monday in December and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the voting members of the Board shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record not less than fifteen days prior to any meeting, of the call of such meeting.

(e) The first Chairman and Vice Chairman of the Board shall be elected by the Board to serve until the first Monday in December next succeeding the date of election at which time a Chairman and Vice Chairman shall be elected for a term of two years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Board shall elect a member to fill such vacancy.

DIRECTOR OF THE FOUNDATION

SEC. 5. (a) There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate. The Board may make recommendations to the President with respect to the appointment of the Director, and the Director shall not be appointed until the Board has had an opportunity to make such recommendations. He shall serve as a nonvoting ex officio member of the Board. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President.

(b) In addition to the powers and duties specifically vested in him by this Act, the Director shall, in accordance with the policies established by the Board, exercise the powers granted by sections 10 and 11 of this Act, together with such other powers and duties as may be delegated to him by the Board; but no final action shall be taken by the Director in the exercise of any power granted by section 10 or 11 (c) unless in each instance the Board has reviewed and approved the action proposed to be taken.

POWER TO CREATE COMMITTEES

SEC. 6. (a) The Board is authorized to appoint from among its members an Executive Committee, and to assign to the Executive Committee such of the powers and functions granted to the Board by this Act as it deems appropriate; except that the Board may not assign to the Executive Committee the function of establishing policies, or the function of review and approval (except review and approval of minor modifications of contracts or other arrangements previously approved by the Board), to be exercised by the Board in accordance with section 5 (b).

(b) *If an Executive Committee is established by the Board—*

(1) *Such Committee shall consist of the Director, as a nonvoting ex officio member, and nine other members elected by the Board from among their number.*

(2) *The term of office of each voting member of such Committee shall be two years, except that (A) any member elected to fill a vacancy occurring prior to the expiration of the term for which his predecessor was elected shall be elected for the remainder of such term; and (B) the term of office of four of the members first elected after the date of enactment of this Act shall be one year.*

(3) *Any person who has been a member of such Committee for six consecutive years shall thereafter be ineligible for election during the two-year period following the expiration of such sixth year.*

(4) *The membership of such Committee shall, so far as practicable, be representative of diverse interests and shall be so chosen as to provide representation, so far as practicable, for all areas of the Nation.*

(5) *Such Committee shall render an annual report to the Board, and such other reports as it may deem necessary, summarizing its activities and making such recommendations as it may deem appropriate. Minority views and recommendations, if any, of members of the Executive Committee shall be included in such reports.*

(c) *The Board is authorized to appoint from among its members or otherwise such committees as it deems necessary, and to assign to committees so appointed such survey and advisory functions as the Board deems appropriate for the purposes of this Act.*

DIVISIONS WITHIN THE FOUNDATION

SEC. 7. (a) *Until otherwise provided by the Board there shall be within the Foundation the following divisions:*

(1) *A Division of Medical Research;*

(2) *A Division of Mathematical, Physical, and Engineering Sciences;*

(3) *A Division of Biological Sciences; and*

(4) *A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.*

(b) *There shall also be within the Foundation such other divisions as the Board may, from time to time, deem necessary.*

DIVISIONAL COMMITTEES

SEC. 8. (a) *There shall be a committee for each division of the Foundation.*

(b) *Each divisional committee shall be appointed by the Board and shall consist of not less than five persons who may be members or non-members of the Board.*

(c) *The terms of members of each divisional committee shall be two years. Each divisional committee shall annually elect its own chairman from among its own members and shall prescribe its own rules of procedure subject to such restrictions as may be prescribed by the Board.*

(d) *Each divisional committee shall make recommendations to, and advise and consult with, the Board and the Director with respect to matters relating to the program of its division.*

SPECIAL COMMISSIONS

SEC. 9. (a) *Each special commission established pursuant to section 3 (a) (7) shall consist of eleven members appointed by the Board, six of whom shall be eminent scientists and five of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.*

(b) *It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being carried on in its field, and to formulate and recommend to the Foundation at the earliest practicable date an over-all research program in its field.*

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

SEC. 10. *The Foundation is authorized to award, within the limits of funds made available specifically for such purpose pursuant to section 16, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.*

GENERAL AUTHORITY OF FOUNDATION

SEC. 11. *The Foundation shall have the authority, within the limits of available appropriations, to do all things necessary to carry out the provisions of this Act, including, but without being limited thereto, the authority—*

(a) *to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;*

(b) *to make such expenditures as may be necessary for administering the provisions of this Act;*

(c) *to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this Act, and, at the request of the Secretary of Defense, specific scientific research activities in connection with matters relating to the national defense, and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes;*

(d) to make advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by this Act;

(f) to receive and use funds donated by others, if such funds are donated without restriction other than that they be used in furtherance of one or more of the general purposes of the Foundation;

(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to provide transportation and subsistence as authorized by section 5 of the Act of August 2, 1946 (5 U. S. C. 73b-2) for persons serving without compensation; and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 12. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: Provided, however, That nothing in this Act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: Provided, however, That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

INTERNATIONAL COOPERATION AND COORDINATION WITH FOREIGN POLICY

SEC. 13. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this Act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable. The Director, with the approval of the Board, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international

scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this Act.

(b) (1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c), and the authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only with the approval of the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

(2) If, in the exercise of the authority referred to in paragraph (1) of this subsection, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

MISCELLANEOUS PROVISIONS

SEC. 14. (a) The Director shall, in accordance with such policies as the Board shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this Act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1949: Provided, That the Director may, in accordance with such policies as the Board shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this Act. The Deputy Director hereinafter provided for, and the members of the divisional committees and special commissions, shall be appointed without regard to the civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of the Board, hold any office in, or act in any capacity for, any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this Act.

(b) The Director may appoint, with the approval of the Board, a Deputy Director who shall perform such functions as the Director, with the approval of the Board, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director.

(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

(d) The members of the Board, and the members of each divisional committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation pursuant to authorization of the Foundation, and shall be allowed travel expenses as authorized by section 5 of the Act of August 2, 1946 (5 U. S. C. 73b-2).

(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees and special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(f) Service of an individual as a member of the Board, of a divisional committee, or of a special commission shall not be considered as service

bringing him within the provisions of section 281, 283, or 284 of title 18 of the United States Code or section 190 of the Revised Statutes (5 U. S. C. sec. 99), unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly nonprofit organizations, in the States, Territories, possessions, and the District of Columbia, (3) aiding institutions, agencies, or organizations which, if aided, will advance basic research, and (4) encouraging independent basic research by individuals.

(h) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

(i) The National Roster of Scientific and Specialized Personnel shall be transferred from the United States Employment Service to the Foundation, together with such records and property as have been utilized or are available for use in the administration of such roster as may be determined by the President. The transfer provided for in this subsection shall take effect at such time or times as the President shall direct.

SECURITY PROVISIONS

SEC. 15. (a) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. To the extent that such activity involves restricted data as defined in the Atomic Energy Act of 1946 the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946.

(b) (1) In the case of scientific or technical research activities under this Act in connection with matters relating to the national defense, with respect to which funds have been transferred to the Foundation from the Department of Defense in accordance with the provisions of section 14 (h) of this Act, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as he deems necessary.

(2) In the case of scientific research activities under this Act in connection with matters relating to the national defense other than research activi-

ties referred to in paragraph (1) of this subsection, the Foundation shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as it deems necessary.

(3) Any agency of the Government exercising investigatory functions is hereby authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) or (2) of this subsection.

(c) No employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions have been established under subsection (b) (1) or (2) until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported the findings of said investigation to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security.

(d) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this Act shall be used to make payments under any scholarship or fellowship to any individual unless such individual (1) has executed and filed with the Foundation an affidavit that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods, and (2) has taken and subscribed to an oath or affirmation in the following form: "I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic." The provisions of section 1001 of title 18, United States Code, shall be applicable with respect to such affidavits.

APPROPRIATIONS

SEC. 16. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated to the Foundation, out of any money in the Treasury not otherwise appropriated, not to exceed \$500,000 for the fiscal year ending June 30, 1951, and not to exceed \$15,000,000 for each fiscal year thereafter.

(b) Appropriations made pursuant to the authority provided in subsection (a) of this section shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the Acts making such appropriations.

And the House agree to the same.

J. PERCY PRIEST,
ANDREW J. BIEMILLER,
GEO. HOWARD WILSON,
CARL HINSHAW,
JOSEPH P. O'HARA,

Managers on the Part of the House.

ELBERT D. THOMAS,
JAMES E. MURRAY,
HERBERT H. LEHMAN,
ROBERT A. TAFT,
H. ALEXANDER SMITH,

Managers on the Part of the Senate.

STATEMENT OF THE MANAGERS ON THE PART OF THE HOUSE

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendment of the House to the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The House amendment was passed in lieu of all of the Senate bill after the enacting clause. The accompanying conference report recommends the adoption of a substitute for both the Senate bill and the House amendment.

The substitute agreed to in conference follows in general the pattern of the House amendment, including the organizational structure providing for a Foundation consisting of a Board and a Director.

The differences between the House amendment and the conference substitute are explained below, except for minor clerical, clarifying and conforming changes.

FOUNDATION'S REPORT TO PRESIDENT AND CONGRESS

By section 3 (c) of the conference substitute the Foundation is required to make an annual report to the President for submission to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. This subsection is the same as it appeared in the House amendment, except that there is included a requirement that the Foundation's report shall contain the minority views and recommendations, if any, of members of the Board.

DIRECTOR OF THE FOUNDATION

Section 5 of the House amendment contained the following sentence:

There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate, after receiving recommendations from the Board.

In this sentence, the words "after receiving recommendations from the Board" replaced the words "after the members of the Foundation have been appointed and qualified" which were contained in the same sentence in the Senate bill. In lieu of this sentence the conference substitute contains the following two sentences:

There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate. The Board may make recommendations to the President with respect to the appointment of the Director, and the Director shall not be appointed until the Board has had an opportunity to make such recommendations.

Section 5 (b) of the conference substitute, relating to the powers and duties of the Director, is the same provision contained in the

House amendment except that it has been modified to make it clear that in each instance where the Director takes any final action under section 10 or 11 (c) the Board must review and specifically approve the action proposed to be taken. It is the view of the conference committee that this requirement makes more certain than otherwise might be the case that, in conformity with section 3 (b), contracts or other arrangements made under section 11 (c) for carrying on basic scientific research activities will not be unduly concentrated in a few organizations or institutions or in a limited area of the Nation.

POWERS TO CREATE AN EXECUTIVE COMMITTEE AND OTHER COMMITTEES

The Senate bill, in section 4 (e), authorized the Foundation to appoint an Executive Committee from among its members, and to appoint from among its members or otherwise such other committees as it deemed necessary, and to assign to such Executive Committee or other committees such powers and functions as it deemed appropriate for the purposes of the act.

The House amendment, in section 6, created an Executive Committee and provided that, in addition to the powers and duties specifically vested in it by the act, the Executive Committee "shall exercise such powers and duties as may be delegated to it by the Board." The House amendment granted no authority, similar to that granted by the Senate bill, for the creation of other committees. Section 6 of the House amendment also contained specific provisions as to the membership of the Executive Committee, the terms of office of members, a requirement that members should be representative of diverse interests and be chosen so as to provide representation so far as practicable for all areas of the Nation, and contained a provision as to the making by the Executive Committee of an annual report by the Board.

Section 6 of the conference substitute combines the Senate and House provisions above referred to as follows:

(1) It grants to the Board the authority to create an Executive Committee and to assign to the Executive Committee such powers and functions as may be deemed appropriate, except that it is provided that the Board may not assign to the Executive Committee the function of establishing policies, or the function of review and approval (except review and approval of minor modifications of contracts or other arrangements previously approved by the Board), to be exercised by the Board in accordance with section 5 (b).

(2) The section further provides that if an Executive Committee is established by the Board it shall consist of nine members of the Board elected by the Board, and of the Director as a nonvoting ex officio member; and it contains provisions, similar in general to those contained in the House amendment, as to terms of office, representation of diverse interests, and the making of an annual report to the Board.

(3) It authorizes the Board to appoint from among its members or otherwise such committees as the Board deems necessary, and authorizes the Board to assign to such committees such survey and advisory functions as the Board deems appropriate.

CONTRACTS OR ARRANGEMENTS FOR RESEARCH RELATING TO THE
NATIONAL DEFENSE

In both the Senate bill and the House amendment (sec. 4 (a) (3) of the Senate bill and sec. 3 (a) (3) of the House amendment) the Foundation was authorized and directed, after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research. Section 10 (c) of the Senate bill authorized the Foundation to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deemed necessary to carry out the purposes of the act. In this section no reference was made to contracts or arrangements for scientific research in connection with matters relating to the national defense. Section 11 (c) of the House amendment contained an authorization similar to that contained in section 10 (c) of the Senate bill, but also authorized the Foundation to enter into contracts or other arrangements, with the approval of the Secretary of Defense, for the carrying on of scientific research activities in connection with matters relating to the national defense.

Both section 10 (c) of the Senate bill and section 11 (c) of the House amendment authorized the Foundation to enter into contracts or other arrangements or modifications thereof, without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes.

In the conference substitute section 3 (a) (3) is a modification of section 4 (a) (3) of the Senate bill and section 3 (a) (3) of the House amendment, and reads as follows:

SEC. 3. (a) The Foundation is authorized and directed—

* * * *

(3) at the request of the Secretary of Defense, to initiate and support specific scientific research activities in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

Section 11 (c) of the conference substitute is a modification of section 10 (c) of the Senate bill and section 11 (c) of the House amendment, and reads as follows:

SEC. 11. The Foundation shall have the * * * authority—

* * * *

(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this Act, and, at the request of the Secretary of Defense, specific scientific research activities in connection with matters relating to the national defense, and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications

thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes;

The fact that under the conference substitute the Foundation is authorized, at the request of the Secretary of Defense, to engage in specific scientific research activities relating to the national defense (research which may be basic or applied in character) does not place a limitation on the authority of the Foundation to engage in basic scientific research.

SECURITY PROVISIONS

In the conference substitute the provisions with respect to security safeguards have been brought together in section 15.

This section has been given very full and careful consideration, in consultation with representatives of the Department of Justice, the Atomic Energy Commission and the Department of Defense.

The objective of the conferees has been to provide for full and adequate security safeguards, while at the same time meeting certain points raised by the Department of Justice and the Secretary of Defense with respect to two provisions contained in the House amendment. It is believed that this objective has been successfully accomplished.

The following explanation of section 15 points out how it differs from the security provisions contained in the Senate bill and the House amendment.

Subsection (a).—This subsection, relating to research in the field of nuclear energy, is identical with subsection 14 (k) of the Senate bill and subsection 14 (j) of the House amendment, except that a new sentence, shown in italic type in the subsection as reproduced below, has been added:

(a) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. *To the extent that such activity involves restricted data as defined in the Atomic Energy Act of 1946 the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable.* Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946.

The committee of conference is satisfied that this subsection is entirely adequate to give full security protection in connection with any activity of the Foundation in the field of nuclear energy involving restricted data. The provisions of the Atomic Energy Act of 1946 (including penalties) will be fully applicable with respect to any such activity and to those individuals who are engaged in it. With respect to this subsection, Acting Chairman Sumner T. Pike of the Atomic Energy Commission, in a letter dated April 12, 1950, addressed to the chairman of the committee of conference, made the following statement with particular reference to the new sentence which has been included in this subsection:

It is the purpose of this language to make explicit that which is implicit in section 14 (j) as presently drafted with particular emphasis placed on those security provisions of the Atomic Energy Act of 1946 which would be applicable to certain activities of the Foundation in the field of nuclear energy. The effect of this sec-

tion together with the suggested additional language is to make it clear that all those who receive restricted data (as defined in the Atomic Energy Act) through work with the Science Foundation shall be investigated by the Federal Bureau of Investigation as to character, associations, and loyalty and shall be cleared by the Atomic Energy Commission.

Subsections (b), (c), and (d).—These subsections are included in section 15 of the conference substitute in lieu of subsection 10 (b) of the House amendment; subsection 14 (l) of the Senate bill and subsection 14 (k) of the House amendment; and subsections 14 (l) and (m) of the House amendment.

Subsections (b), (c), and (d) of section 15 of the conference substitute are as follows:

(b) (1) In the case of scientific or technical research activities under this Act in connection with matters relating to the national defense, with respect to which funds have been transferred to the Foundation from the Department of Defense in accordance with the provisions of section 14 (h) of this Act, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as he deems necessary.

(2) In the case of scientific research activities under this Act in connection with matters relating to the national defense other than research activities referred to in paragraph (1) of this subsection, the Foundation shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as it deems necessary.

(3) Any agency of the Government exercising investigatory functions is hereby authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) or (2) of this subsection.

(c) No employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions have been established under subsection (b) (1) or (2) until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported the findings of said investigation to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security.

(d) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this Act shall be used to make payments under any scholarship or fellowship to any individual unless such individual (1) has executed and filed with the Foundation an affidavit that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods, and (2) has taken and subscribed to an oath or affirmation in the following form: "I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic." The provisions of section 1001 of title 18, United States Code, shall be applicable with respect to such affidavits.

Subsection (d) is the same as section 10 (b) of the House amendment, except that it contains an additional requirement that before funds may be paid to an individual under a scholarship or fellowship such individual must subscribe to the following oath or affirmation:

I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic.

Section 1001 of title 18, the penalties of which are by subsection (d) made applicable with respect to false affidavits executed under that subsection, applies only in the case of violations knowingly and willfully committed.

Subsection (b) is a modification of subsection 14 (l) of the Senate bill and subsection 14 (k) of the House amendment and requires the establishment of such security requirements and safeguards, including restrictions with respect to access to information and property, as may be deemed necessary in connection with research activities under the act in connection with matters relating to the national defense. Such requirements and safeguards will be established by the Secretary of Defense in the case of research carried on with funds transferred from the Department of Defense, and by the Foundation in the case of research carried on with other funds.

Subsections 14 (l) and (m) of the House amendment (quoted in full below at the beginning of the letter from the Department of Justice) required a specified investigation and report to be made by the Federal Bureau of Investigation with regard to any individual before he could be employed by the Foundation or awarded a scholarship, or, in the case of a national of a foreign country, before he could become associated with the Foundation in any capacity.

Serious objections have been made to these provisions of the House amendment by the Department of Justice and the Secretary of Defense. These objections are based on reasons which may be summarized as follows:

(1) If enacted, section 14 (l) would require the Federal Bureau of Investigation not only to investigate employees of the Foundation and applicants for scholarships but to evaluate the information collected through its investigation. This requirement would seriously impair the efficiency and reputation of the Federal Bureau of Investigation as an investigating agency.

(2) Section 14 (l) would preclude employment of, or awarding of scholarships to, persons who at any time have been members of so-called "front organizations" regardless of whether such persons withdrew from such organizations when they first suspected their subversive character. To deny to such persons an opportunity to prove that their membership was innocent would unjustly penalize many completely loyal Americans who innocently joined such organizations, and the denial of such opportunity would be inconsistent with American concepts of justice and fairness.

(3) Section 14 (m) would require investigations to be carried on by the Federal Bureau of Investigation of foreign nationals in foreign countries. This requirement would be impractical since the Federal Bureau of Investigation does not have facilities for conducting investigations abroad.

The objections of the Department of Justice and the Secretary of Defense were set forth in identical letters to Senator Elbert D. Thomas, chairman of the Senate Committee on Labor and Public Welfare and chairman of the committee of conference, and to Hon. Robert Crosser, chairman of the House Committee on Interstate and Foreign Commerce, the letter to Mr. Crosser being as follows:

DEPARTMENT OF JUSTICE,
OFFICE OF THE ASSISTANT TO THE ATTORNEY GENERAL,
Washington, March 6, 1950.

HON. ROBERT CROSSER,
*Chairman, Committee on Interstate and Foreign Commerce,
House of Representatives, Washington, D. C.*

MY DEAR MR. CHAIRMAN: The legislation to establish the National Science Foundation (S. 247 and H. R. 4846) has been amended within the past few days in a manner which has caused me deep concern. I refer to two amendments

added by the House of Representatives to S. 247. The first of these amendments reads as follows:

"(1) No person shall be employed by the Foundation and no scholarship awarded to any person by the Foundation unless and until the Federal Bureau of Investigation shall have investigated the loyalty of such person and reported to the Foundation such person is loyal to the United States, believes in our system of government, and is not and has not at any time been a member of any organization declared subversive by the Attorney General or any organization that teaches or advocates the overthrow of our Government by force and violence."

The second amendment provides:

"(m) No person a national of a foreign country shall be associated with the Foundation in any capacity whatsoever unless and until the Federal Bureau of Investigation, independent of any investigation made by the government of such person, shall have investigated such person and reported to the Foundation that such person is not and has not at any time been a member of any organization that teaches or advocates the overthrow of the Government of the United States by force and violence."

I, of course, am firmly of the belief that disloyal persons should not be in the employ of the National Science Foundation. The amendments, however, go beyond this. Should they be enacted into law they would not only effect an extremely radical and undesirable change in the basic responsibilities and functions of the Federal Bureau of Investigation but also, in my opinion, they would bring about a departure from American concepts of justice and democratic government.

The Bureau is at the present time solely an investigative and fact-gathering agency; it does not evaluate or make recommendations with reference to the information it collects through its investigations. In loyalty investigations, as in others, the Bureau submits the information it has obtained through investigation for the consideration of the employing agency and for such determinations by that agency as may be required. The fine reputation which I believe the Bureau enjoys today as an impartial investigative agency results in large part because it has carefully restricted its activities to the making of investigations. Indeed, while the Bureau's expertise and high qualifications in this field would be challenged by no one, it is not equipped to go beyond the field of investigation and into that of making the determinations called for by the amendments. If the Bureau were called upon to perform the functions required by the amendments, its efficiency and good reputation as an investigative agency would be seriously impaired.

The enactment of either of the amendments mentioned above would remove the Bureau from its position as an impartial fact-gathering organization and impose upon it the responsibility for making decisions concerning the loyalty of individuals under consideration by the National Science Foundation for employment or for a fellowship under the act. To place the Bureau in the position of an evaluating agency regarding the loyalty of persons affected by this legislation is fraught with peril, not only to the Bureau itself, but also to the country at large. In the opinion of the Director of the Federal Bureau of Investigation, with which I agree, such legislation would constitute a clear departure from accepted fundamental theories of American government and lay a foundation for criticism of the Bureau as a state police organization.

It is also to be noted that the amendments, in precluding the employment of, or the awarding of a scholarship to, any person who has "at any time been a member of" any subversive organization seeks to deny to the Foundation the services of many Americans of unquestionable loyalty to the United States and its form of government who innocently joined a so-called "front" organization with the highest motives and who withdrew their membership from such organization upon their first suspicion of its subversive character.

It is characteristic of many "front" organizations that their purported purposes and programs are designed to appeal to loyal Americans and frequently it is behind a screen of respectability, loyalty, and even patriotism that subversive activities are carried on, often by only a few disloyal persons. In other instances a small minority subvert an organization of previously good purposes and having many members of unquestionable loyalty to the United States. This amendment would unjustly penalize many completely loyal Americans who innocently joined such organizations and would, in some measure, tend to defeat the carrying out of the purposes of the act.

The amendments also overlook the fact that under the employee loyalty program, membership in an organization on the Attorney General's list is regarded as merely one piece of evidence pointing to possible disloyalty. The loyalty program

enables an employee who is a member of a listed organization to respond to charges against him and to show that his membership is innocent and does not reflect upon his loyalty. This opportunity to defend oneself in a manner consistent with American concepts of justice and fairness is lacking from the amendments.

It is also to be noted, with regard to the second amendment above quoted, that a very practical difficulty exists with respect to the proposed investigation of foreign nationals by the Federal Bureau of Investigation, in that the Bureau does not have facilities for conducting investigations abroad.

For the reasons above stated, I request and hope that you will make every effort to eliminate the amendments in question before final enactment of the National Science Foundation Act of 1949, thus leaving investigations of the personnel of this agency to be conducted on the same basis as investigations of personnel of other nonsensitive agencies.

I am authorized to state that this letter also reflects the views of the Secretary of Defense.

The Director of the Bureau of the Budget has advised that there is no objection to the submission of this recommendation.

Yours sincerely,

PEYTON FORD,

The Assistant to the Attorney General.

In reaching agreement on the provisions of section 15 the committee of conference has retained the purposes of subsections 14 (l) and (m) of the House amendment so far as it has been practicable to do so, but great weight has necessarily been given to the strongly expressed views of the Department of Justice and the Secretary of Defense.

The text of section 15 has been examined by representatives of the Department of Justice, and on April 25, 1950, the Hon. Peyton Ford, Assistant to the Attorney General, sent a joint letter to the chairman and vice chairman of the committee of conference in which he stated—

The Department of Justice would have no objection to the proposed new section 15.

The committee of conference is convinced that the provisions of section 15 are adequate with regard to the loyalty investigation of individuals who will become employees of the Foundation or holders of scholarships or fellowships, or who will be associated with the Foundation in any way.

A draft of the proposed section 15 was submitted to the Department of Defense, and a letter regarding it was addressed to the chairman of the committee of conference on April 24, 1950, by Mr. William Webster, Chairman of the Research and Development Board of the Department. The letter states in part as follows:

This draft has been examined with care, for the Department of Defense has long been strongly in favor of the establishment of a National Science Foundation. The proposed security provision seems to strike a proper balance between two objectives. It recognizes, one, the need to protect research and development related to the national defense according to the possible damage which could result from the disclosure to a potential enemy of information concerning it and, two, the need that scientific research, particularly basic research, be open in order to achieve maximum progress.

It is our understanding that the National Science Foundation would deal principally with basic research and other matters of a nonclassified nature and that the authorization for it to engage in applied research in connection with matters relating to the national defense is designed primarily to enable the Foundation to assist the military effort in a small number of cases or in the event of an emergency. It does not appear that the volume of such work relating to the national defense will be significant, particularly classified work of that type. In view of the limitation on appropriations authorized for the Foundation, it may be expected that the bulk of such work would be carried on by funds transferred from the Department of Defense. In cases of this type, authority is provided to the Department by the proposed subsection (b) (1) to ensure that adequate security

precautions are taken wherever necessary. It is assumed that the subsection would authorize controls relating to any person who might have access to classified information including fellows and employees of the Foundation and its contractors. The caliber of men who will constitute the Foundation—appointed by the President and confirmed by the Senate—should provide assurance that the Foundation would take adequate precautions with respect to research supported by it and related to the national defense, if there be any. Furthermore, it is noted that all employees of the Foundation must be fully investigated and cleared before being given access to any classified information.

I understand that subsection (a) of the proposed security provisions has been approved by the Atomic Energy Commission. It appears that the principles involved in the proposed provisions and the provisions themselves will be satisfactory, particularly in view of the assurance above-mentioned that the Department of Defense would establish requirements covering the security of all research work supported with its funds. This letter has been coordinated among the departments and agencies of the Department of Defense in accordance with procedures established by the Secretary of Defense. Shortness of time, however, has prevented submission of it to the Bureau of the Budget for clearance.

It has already been pointed out in the explanation of subsection (a) that full investigation by the Federal Bureau of Investigation will be required, under the Atomic Energy Act of 1946, before individuals are permitted to have access to restricted data as defined in that act.

Subsection (c) provides that no employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions are established under subsection (b) (1) or (2), with respect to research related to the national defense, until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported its findings to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security. The investigation thus required is the same as that required under the Atomic Energy Act of 1946. Since the members of the Board and the Director will not be employees of the Foundation, but officers appointed by the President, by and with the advice and consent of the Senate, subsection (c) will not apply to them.

Under subsection (b) the security safeguards to be established by the Secretary of Defense and the Foundation in connection with research activities of the Foundation related to the national defense may provide for such investigations of scholarship and fellowship holders, employees of contractors, and others, as may be deemed necessary.

In order that the Federal Bureau of Investigation, the Central Intelligence Agency, and any other appropriate agency of the Government will have authority to make the investigations provided for pursuant to subsection (b), a paragraph (3) has been included specifically authorizing any agency of the Government exercising investigatory functions to make such investigations and reports as may be requested by the Foundation. Nothing in section 15 of the conference substitute is intended in any way to alter the present authority of the Federal Bureau of Investigation in matters dealing with internal security.

The provisions of subsection (b) are consistent with the method of imposing and enforcing security safeguards which is presently in effect with respect to the Department of Defense. In the case of that Department, it is left to its judgment to determine the instances in which to require investigations of individuals before they are

permitted to have access to classified matters and, depending on the degree of secrecy involved, the nature and extent of the investigation to be made of particular individuals.

As indicated in the letter from the Chairman of the Research and Development Board, the Foundation's activities will be almost exclusively in basic research. Basic research generally does not involve security problems. It is confidently anticipated that only a very small part of its activities will be concerned with research on matters related to restricted data in the field of nuclear energy or related to the national defense—the two fields in which problems of security may be involved. It is the considered judgment of the committee of conference that to the very limited extent that activities of the Foundation will involve security problems, section 15 of the conference substitute provides a sound and satisfactory method of dealing with those problems.

It is unnecessary to include in this legislation special penal provisions with respect to violations of the security requirements and safeguards which will be in effect thereunder. As already pointed out, the penalties provided by the Atomic Energy Act of 1946 (in sec. 10 thereof) will apply with respect to any activity involving restricted data in the field of research related to nuclear energy. These penalties are wholly adequate. In the field of research related to the national defense, the same penalties which now apply to security matters concerning the Department of Defense will be applicable. These penalties are contained in title 18 of the United States Code, principally in chapter 37 thereof. Sections 793 and 794 of that chapter are as follows:

§ 793. Gathering, transmitting or losing defense information

Whoever, for the purpose of obtaining information respecting the national defense with intent or reason to believe that the information is to be used to the injury of the United States, or to the advantage of any foreign nation, goes upon, enters, flies over, or otherwise obtains information concerning any vessel, aircraft, work of defense, navy yard, naval station, submarine base, fueling station, fort, battery, torpedo station, dockyard, canal, railroad, arsenal, camp, factory, mine, telegraph, telephone, wireless, or signal station, building, office, or other place connected with the national defense, owned or constructed, or in progress of construction by the United States or under the control of the United States, or of any of its officers, departments or agencies, or within the exclusive jurisdiction of the United States, or any place in which any vessel, aircraft, arms, munitions, or other materials or instruments for use in time of war are being made, prepared, repaired, or stored, under any contract or agreement with the United States, or any department or agency thereof, or with any person on behalf of the United States, or otherwise on behalf of the United States, or any other prohibited place so designated by the President by proclamation in time of war or in case of national emergency in which anything for the use of the Army or Navy is being prepared or constructed or stored, information as to which the President has determined would be prejudicial to the national defense; or

Whoever, for the purpose aforesaid, and with like intent or reason to believe, copies, takes, makes, or obtains, or attempts, to copy, take, make, or obtain, any sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, document, writing, or note of anything connected with the national defense; or

Whoever, for the purpose aforesaid, receives or obtains or agrees or attempts to receive or obtain from any person, or from any source whatever, any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, or note, of anything connected with the national defense, knowing or having reason to believe, at the time he receives or obtains, or agrees or attempts to receive or obtain it, that it has been or will be obtained, taken, made or disposed of by any person contrary to the provisions of this chapter; or

Whoever, lawfully or unlawfully having possession of, access to, control over, or being intrusted with any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, or note relating to the national defense, willfully communicates or transmits or attempts to communicate or transmit the same to any person not entitled to receive it, or willfully retains the same and fails to deliver it on demand to the officer or employee of the United States entitled to receive it; or

Whoever, being intrusted with or having lawful possession or control of any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, note, or information, relating to the national defense, through gross negligence permits the same to be removed from its proper place of custody or delivered to anyone in violation of his trust, or to be lost, stolen, abstracted, or destroyed—

Shall be fined not more than \$10,000 or imprisoned not more than ten years, or both.

§ 794. Gathering or delivering defense information to aid foreign government

(a) Whoever, with intent or reason to believe that it is to be used to the injury of the United States or to the advantage of a foreign nation, communicates, delivers, or transmits, or attempts to communicate, deliver, or transmit, to any foreign government, or to any faction or party or military or naval force within a foreign country, whether recognized or unrecognized by the United States, or to any representative, officer, agent, employee, subject, or citizen thereof, either directly or indirectly, any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, note, instrument, appliance, or information relating to the national defense, shall be imprisoned not more than twenty years.

(b) Whoever violates subsection (a) in time of war shall be punished by death or by imprisonment for not more than thirty years.

(c) Whoever, in time of war, with intent that the same shall be communicated to the enemy, collects, records, publishes, or communicates, or attempts to elicit any information with respect to the movement, numbers, description, condition, or disposition of any of the armed forces, ships, aircraft, or war materials of the United States, or with respect to the plans or conduct, or supposed plans or conduct of any naval or military operations, or with respect to any works or measures undertaken for or connected with, or intended for the fortification or defense of any place, or any other information relating to the public defense, which might be useful to the enemy, shall be punished by death or by imprisonment for not more than thirty years.

(d) If two or more persons conspire to violate this section, and one or more of such persons do any act to effect the object of the conspiracy, each of the parties to such conspiracy shall be subject to the punishment provided for the offense which is the object of such conspiracy.

RESEARCH ACTIVITIES OF OTHER GOVERNMENT AGENCIES

Section 14 of the Senate bill contained the following subsection not contained in the House amendment:

(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development.

This provision has not been included in the conference substitute. No such provision seems needed to insure continuance of research which is or may be carried on by other Government agencies under specific statutory authority and the provision seemed so broad and inflexible in its terms that its inclusion might unduly interfere with the administrative coordination through the National Science Foundation of activities in the basic sciences being carried on by various Government agencies.

Moreover, debate in the House over the striking out of a similar provision in the House bill as introduced made it clear that omission of the provision in no way implies that the Foundation is authorized to take over the research functions which have been granted other

agencies by law or that the exercise of those functions is to be curtailed. It was made especially clear in the debate that its omission would not result in any limitation or curtailment of the programs of research in the fields of medicine and related activities being carried on by the National Institutes of Health or other units of the United States Public Health Service. After discussion of the nature of the research being carried on by the Institutes or supported by them, the committee of conference agreed with this interpretation.

TRANSFER OF NATIONAL ROSTER OF SCIENTIFIC AND SPECIALIZED
PERSONNEL

Section 14 (i) of the conference substitute relates to the transfer to the Foundation of the National Roster of Scientific and Specialized Personnel, which is now in the United States Employment Service. The provision is the same as in the House amendment, except that the President, rather than the Director of the Bureau of the Budget, will have the authority to determine the records and property to be transferred with the roster and the time when the transfer shall take effect. This modification has been taken from the corresponding provision in the Senate bill.

J. PERCY PRIEST,
ANDREW J. BIEMILLER,
GEO. HOWARD WILSON,
CARL HINSHAW,
JOSEPH P. O'HARA,

Managers on the Part of the House.





the New York County Lawyers' Association, the War Veterans' Bar Association, the Judge Advocate Generals' Association, and the Phi Alpha Delta law fraternity. The reports and recommendations of each of these groups were made available to the Armed Services Committee and representatives of each of the organizations appeared before the committee in public hearings in support of their recommendations. Other witnesses, who had particular knowledge of the subject by virtue of their service and experience in the recent war, were heard.

In our opinion, the combined efforts of these organizations and individuals represented the most comprehensive study of military justice ever conducted in the history of our country.

During the Eightieth Congress the Legal Subcommittee of the Committee on Armed Services, of which I had the honor to be chairman, conducted extensive hearings on the same subject. That subcommittee was in session from April 14, 1947, until July 15, 1947, and considered all of the studies to which I have referred. As a result of these hearings, our subcommittee presented to the full committee what is now known as title II, Public Law 759, Eightieth Congress. The report of the subcommittee was unanimously adopted by the full committee and passed the House on January 15, 1948. That bill, which pertained only to the Army, was included as an amendment to the Selective Service Act of 1948.

During the year 1948 Secretary of Defense Forrestal appointed a special committee to study a uniform code of military justice to be equally applicable to all of the armed forces. During the Eighty-first Congress further hearings were held by a subcommittee of the Committee on Armed Services, of which the gentleman from Louisiana [Mr. Brooks], was chairman. That committee reported a uniform code of military justice known as H. R. 4080, and it passed the House May 5, 1949. With a few exceptions the provisions of H. R. 4080 were similar to title II, Public Law 759, and the bill as passed by the House was amended only slightly by the other body.

Under the provisions of Public Law 759, Eightieth Congress, a separate Judge Advocate General's Corps was established for the Army. No such separate legal corps exists for the Navy or the Air Force. It was believed desirable to postpone the creation of a special corps for the Air Force and the Navy until further experience is available on the operation of the Corps in the Army. Later on Congress will have the benefit of the recommendations of the Court of Military Appeals on this subject.

Mr. Speaker, I shall not undertake at this time to review the provisions of the pending bill. They were fully discussed when this legislation was debated during the past 2 years.

While I would have preferred that the tenure of the judges of the Military Court of Appeals should be for life, I consider the 15-year term agreed upon by the conferees to be reasonable, and I urge the adoption of the conference report.

Every serviceman who may hereafter be accused of any military offense is assured of a fair and impartial trial free from command influence, and with the right to have his case reviewed upon the evidence as well as the law. His final review in the Court of Military Appeals will be before civilian judges possessing the qualifications of judges of the United States court of appeals. He shall hereafter be entitled to competent legal counsel at all stages of his hearing. If he is an enlisted man, he may have enlisted men on the court if he requests it. Officers may now be tried by special courts martial thus providing for greater equality in the treatment of officers and enlisted men. The system heretofore in effect could not guarantee equal and exact justice; the pending bill should accomplish it.

(Mr. BROOKS asked and was given permission to revise and extend his remarks.)

The SPEAKER pro tempore (Mr. PRIEST). The question is on agreeing to the conference report.

The conference report was agreed to. A motion to reconsider was laid on the table.

SPECIAL ORDER GRANTED

Mrs. ROGERS of Massachusetts asked and was given permission to address the House for 5 minutes today following the legislative program and special orders heretofore entered.

EXTENSION OF REMARKS

Mr. GAVIN asked and was given permission to extend his remarks in the Appendix of the RECORD.

Mrs. ST. GEORGE asked and was given permission to extend her remarks in the Appendix of the RECORD and include the second article by Mr. Frank C. Waldrop.

Mr. PATTERSON asked and was given permission to extend his remarks in the Appendix of the RECORD and include an editorial from the Catholic Transcript.

Mr. GOODWIN asked and was given permission to extend his remarks in three instances and in each to include extraneous matter.

Mr. VURSELL asked and was given permission to extend his remarks and include a very informative and sound editorial by the publishers of the Fort Worth Star-Telegram, Fort Worth, Tex., in which is discussed the President's recent veto of the Natural Gas Act.

Mr. RICH asked and was given permission to extend his remarks and include an editorial from the Washington Times-Herald of April 24 entitled "Washington Dope Habit."

Mr. SMITH of Wisconsin asked and was given permission to extend his remarks in two separate instances and to include an editorial and a news article.

Mr. WHEELER asked and was given permission to extend his remarks and include an address by the gentleman from Georgia [Mr. Wood].

Mr. CLEMENTE asked and was given permission to extend his remarks and include a speech of Councilman Michael, of New York City.

Mr. HELLER asked and was given permission to extend his remarks in six instances and in each to include extraneous matter.

Mr. LARCADE. Mr. Speaker, I ask unanimous consent to extend copies of a resolution adopted by the National Rivers and Harbors Congress. There may be a slight additional cost above the limit fixed by the Joint Committee on Printing; nevertheless I ask unanimous consent to include these resolutions.

The SPEAKER pro tempore. Notwithstanding the additional cost, without objection, the extension may be made.

There was no objection.

[The matter referred to appears in the Appendix.]

Mr. BOGGS of Louisiana asked and was given permission to extend his remarks and include an editorial.

Mr. FURCOLO asked and was given permission to extend his remarks and include a newspaper article.

Mr. MULTER asked and was given permission to extend his remarks in three instances and each to include extraneous matter.

Mr. RODINO asked and was given permission to extend his remarks in two instances and in each to include extraneous matter.

Mr. HARRIS asked and was given permission to extend his remarks and include various documents with regard to the Natural Gas Act.

Mr. McCORMACK asked and was given permission to extend his remarks and include an editorial.

Mr. WIDNALL asked and was given permission to extend his remarks and include a letter received today from a constituent.

Mr. VELDE (at the request of Mr. JENSEN) was given permission to extend his own remarks.

Mr. SIMPSON of Illinois asked and was given permission to extend his remarks and include a report from the projects committee of the National Rivers and Harbors Congress.

Mr. REED of New York asked and was given permission to extend his remarks in four instances and in each to include extraneous matter.

Mr. MACY asked and was given permission to extend an editorial that appeared recently in the magazine Iron Age.

Mr. ANGELL asked and was given permission to extend his remarks and include an article.

Mrs. ROGERS of Massachusetts asked and was given permission to extend her remarks and include an editorial from the Boston Traveler regarding the severe cut in the postal service.

Mr. DINGELL asked and was given permission to extend his remarks and include three thought-provoking articles by the eminent journalist and writer Lowell Mellett appearing in the Washington Star under date of April 18, April 20, and April 22.

Mr. BONNER asked and was given permission to extend his remarks and include an editorial.

SALE OF SELECT BASE MATERIAL AT FORT BENNING MILITARY RESERVATION TO MUSCOGEE COUNTY, GA.

Mr. BROOKS. Mr. Speaker, I ask unanimous consent to take from the Speaker's desk a bill (H. R. 2835) to authorize the sale of select base material, at the Fort Benning Military Reservation, to Muscogee County, State of Georgia, for use on county roads, with a Senate amendment thereto and concur in the Senate amendment.

The Clerk read the title of the bill.

The Clerk read the Senate amendment as follows:

Page 1, line 8, after "of", where it appears the second time, insert: "not less than."

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Louisiana?

Mr. ELSTON. Mr. Speaker, reserving the right to object, and I shall not object, will the gentleman from Louisiana explain the amendment and the purpose of the bill?

Mr. BROOKS. Mr. Speaker, the bill authorizes the Secretary of the Army to sell to the county of Muscogee in the State of Georgia such amount of select base material as may be available at Fort Benning and not useful to the reservation. We stipulated in the original bill that the price should be 5 cents per cubic yard. The Senate amendment merely inserts the words "not less than" so that in the event we can get more than 5 cents per cubic yard a higher price will be available to the United States.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Louisiana?

There was no objection.

The Senate amendment was concurred in.

A motion to reconsider was laid on the table.

CALL OF THE HOUSE

Mr. H. CARL ANDERSEN. Mr. Speaker, I make the point of order that a quorum is not present.

The SPEAKER pro tempore. Evidently a quorum is not present.

Mr. MCCORMACK. Mr. Speaker, I move a call of the House.

A call of the House was ordered.

The Clerk called the roll, and the following Members failed to answer to their names:

[Roll No. 141]

Allen, Ill.	Gilmer	Nixon
Barrett, Pa.	Grant	O'Sullivan
Battle	Hagen	Pace
Bennett, Fla.	Harden	Pfeifer,
Boykin	Harvey	Joseph L.
Brehm	Hays, Ohio	Powell
Bulwinkle	Hébert	Quinn
Carlyle	Hinshaw	Rains
Cavalcante	Hobbs	Riehlman
Celler	Howell	Roosevelt
Chatham	Jenkins	Sabath
Cooley	Kee	Smathers
Coudert	Kennedy	Smith, Kans.
Cox	Keogh	Smith, Ohio
Crosser	Kunkel	Steed
Davenport	Lodge	Vinson
Dayles, N. Y.	Lucas	Whitaker
Dawson	Martin, Iowa	White, Calif.
Deane	Miles	Wolcott
Douglas	Morgan	Woodruff
Evins	Moulder	

The SPEAKER pro tempore. Three hundred and sixty-one Members have answered to their names, a quorum.

By unanimous consent, further proceedings under the call were dispensed with.

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

Mr. BIEMILLER. Mr. Speaker, I ask unanimous consent that the gentleman from Tennessee [Mr. PRIEST] may have until midnight tonight to file a conference report and statement on the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Wisconsin?

There was no objection.

The conference report and statement follow:

CONFERENCE REPORT (H. REPT. NO. 1958)

The committee of conference on the disagreeing votes of the two Houses on the amendment of the House to the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, having met, after full and free conference, have agreed to recommend and do recommend to their respective Houses as follows:

That the Senate recede from its disagreement to the amendment of the House and agree to the same with an amendment as follows:

In lieu of the matter proposed to be inserted by the House amendment insert the following: "That this act may be cited as the 'National Science Foundation Act of 1950'."

"ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

"SEC. 2. There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the 'Foundation'). The Foundation shall consist of a National Science Board (hereinafter referred to as the 'Board') and a Director.

"FUNCTIONS OF THE FOUNDATION

"SEC. 3. (a) The Foundation is authorized and directed—

"(1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

"(2) to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

"(3) at the request of the Secretary of Defense, to initiate and support specific scientific research activities in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

"(4) to award, as provided in section 10, scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

"(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

"(6) to evaluate scientific research programs undertaken by agencies of the Federal Government, and to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups;

"(7) to establish such special commissions as the Board may from time to time deem necessary for the purposes of this Act; and

"(8) to maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including its Territories and possessions.

"(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

"(c) The Foundation shall render an annual report to the President for submission on or before the 15th day of January of each year to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. Such report shall include (1) minority views and recommendations if any, of members of the Board, and (2) information as to the acquisition and disposition by the Foundation of any patents and patent rights.

"NATIONAL SCIENCE BOARD

"SEC. 4. (a) The Board shall consist of twenty-four members to be appointed by the President, by and with the advice and consent of the Senate, and of the Director ex officio, and shall, except as otherwise provided in this Act, exercise the authority granted to the Foundation by this Act. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, the Association of Land Grant Colleges and Universities, the National Association of State Universities, the Association of American Colleges, or by other scientific or educational organizations.

"(b) The term of office of each voting member of the Board shall be six years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this Act shall expire, as designated by the President at the time of appointment, eight at the end of two years, eight at the end of four years, and eight at the end of six years, after the date of enactment of this Act. Any person who has been a member of the Board for twelve consecutive years shall thereafter be ineligible for appointment during the two-year period following the expiration of such twelfth year.

"(c) The President shall call the first meeting of the Board, at which the first order of business shall be the election of a chairman and a vice chairman.

"(d) The Board shall meet annually on the first Monday in December and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the voting members of the Board shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record not less than fifteen days prior to any meeting, of the call of such meeting.

"(e) The first Chairman and Vice Chairman of the Board shall be elected by the Board to serve until the first Monday in December next succeeding the date of election at which time a Chairman and Vice Chairman shall be elected for a term of two years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Board shall elect a member to fill such vacancy.

"DIRECTOR OF THE FOUNDATION

"SEC. 5. (a) There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate. The Board may make recommendations to the President with respect to the appointment of the Director, and the Director shall not be appointed until the Board has had an opportunity to make such recommendations. He shall serve as a nonvoting ex officio member of the Board. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President.

"(b) In addition to the powers and duties specifically vested in him by this Act, the Director shall, in accordance with the policies established by the Board, exercise the powers granted by sections 10 and 11 of this Act, together with such other powers and duties as may be delegated to him by the Board; but no final action shall be taken by the Director in the exercise of any power granted by section 10 or 11 (c) unless in each instance the Board has reviewed and approved the action proposed to be taken.

"POWER TO RECREATE COMMITTEES

"SEC. 6. (a) The Board is authorized to appoint from among its members an Executive Committee, and to assign to the Executive Committee such of the powers and functions granted to the Board by this Act as it deems appropriate; except that the Board may not assign to the Executive Committee the function of establishing policies, or the function of review and approval (except review and approval of minor modifications of contracts or other arrangements previously approved by the Board), to be exercised by the Board in accordance with section 5 (b).

"(b) If an Executive Committee is established by the Board—

"(1) Such Committee shall consist of the Director, as a nonvoting ex officio member, and nine other members elected by the Board from among their number.

"(2) The term of office of each voting member of such Committee shall be two years, except that (A) any member elected to fill a vacancy occurring prior to the expiration of the term for which his predecessor was elected shall be elected for the remainder of such term; and (B) the term of office of four of the members first elected after the date of enactment of this Act shall be one year.

"(3) Any person who has been a member of such Committee for six consecutive years shall thereafter be ineligible for election during the two-year period following the expiration of such sixth year.

"(4) The membership of such Committee shall, so far as practicable, be representative of diverse interests and shall be so chosen as to provide representation, so far as practicable, for all areas of the Nation.

"(5) Such Committee shall render an annual report to the Board, and such other reports as it may deem necessary, summarizing its activities and making such recommendations as it may deem appropriate. Minority views and recommendations, if any, of members of the Executive Committee shall be included in such reports.

"(c) The Board is authorized to appoint from among its members or otherwise such committees as it deems necessary, and to assign to committees so appointed such survey and advisory functions as the Board deems appropriate for the purposes of this Act.

"DIVISIONS WITHIN THE FOUNDATION

"SEC. 7. (a) Until otherwise provided by the Board there shall be within the Foundation the following divisions:

"(1) A Division of Medical Research;

"(2) A Division of Mathematical, Physical, and Engineering Sciences;

"(3) A Division of Biological Sciences; and

"(4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

"(b) There shall also be within the Foundation such other divisions as the Board may, from time to time, deem necessary.

"DIVISIONAL COMMITTEES

"SEC. 8. (a) There shall be a committee for each division of the Foundation.

"(b) Each divisional committee shall be appointed by the Board and shall consist of not less than five persons who may be members or nonmembers of the Board.

"(c) The terms of members of each divisional committee shall be two years. Each divisional committee shall annually elect its own chairman from among its own members and shall prescribe its own rules of procedure subject to such restrictions as may be prescribed by the Board.

"(d) Each divisional committee shall make recommendations to, and advise and consult with, the Board and the Director with respect to matters relating to the program of its division.

"SPECIAL COMMISSIONS

"SEC. 9. (a) Each special commission established pursuant to section 3 (a) (7) shall consist of eleven members appointed by the Board, six of whom shall be eminent scientists and five of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.

"(b) It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being carried on in its field, and to formulate and recommend to the Foundation at the earliest practicable date an over-all research program in its field.

"SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

"SEC. 10. The Foundation is authorized to award, within the limits of funds made available specifically for such purpose pursuant to section 16, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which

two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.

"GENERAL AUTHORITY OF FOUNDATION

"SEC. 11. The Foundation shall have the authority, within the limits of available appropriations, to do all things necessary to carry out the provisions of this Act, including, but without being limited thereto, the authority—

"(a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;

"(b) to make such expenditures as may be necessary for administering the provisions of this Act;

"(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this Act, and, at the request of the Secretary of Defense, specific scientific research activities in connection with matters relating to the national defense, and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes;

"(d) to make advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

"(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by this Act;

"(f) to receive and use funds donated by others, if such funds are donated without restriction other than that they be used in furtherance of one or more of the general purposes of the Foundation;

"(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

"(h) to accept and utilize the services of voluntary and uncompensated personnel and to provide transportation and subsistence as authorized by section 5 of the Act of August 2, 1946 (5 U. S. C. 73b-2) for persons serving without compensation; and

"(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

"PATENT RIGHTS

"SEC. 12. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a man-

ner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however*, That nothing in this Act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

"(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however*, That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

"INTERNATIONAL COOPERATION AND COORDINATION WITH FOREIGN POLICY

"SEC. 13. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this Act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable. The Director, with the approval of the Board, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this Act.

"(b) (1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c), and the authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only with the approval of the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

"(2) If, in the exercise of the authority referred to in paragraph (1) of this subsection negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

MISCELLANEOUS PROVISIONS

"SEC. 14. (a) The Director shall, in accordance with such policies as the Board shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this Act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1949: *Provided*, That the Director may, in accordance with such policies as the Board shall from time to time prescribe, employ such technical and professional personnel and fix their compensation without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this Act. The Deputy Director hereinafter provided for, and the members of the divisional committees and special commissions, shall be appointed without regard to civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of the Board, hold any office in, or act in any capacity for, any organization, agency,

or institution with which the Foundation makes any contract or other arrangement under this Act.

"(b) The Director may appoint, with the approval of the Board, a Deputy Director who shall perform such functions as the Director, with the approval of the Board, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director.

"(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

"(d) The members of the Board, and the members of each divisional Committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation pursuant to authorization of the Foundation, and shall be allowed travel expenses as authorized by section 5 of the Act of August 2, 1946 (5 U. S. C. 73b-2).

"(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees or special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

"(f) Service of an individual as a member of the Board, of a divisional committee, or of a special commission shall not be considered as service bringing him within the provisions of section 281, 283, or 284 of title 18 of the United States Code or section 190 of the Revised Statutes (5 U. S. C. sec. 99), unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

"(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly nonprofit organizations, in the States, Territories, possessions, and the District of Columbia, (3) aiding institutions, agencies, or organizations which, if aided, will advance basic research, and (4) encouraging independent basic research by individuals.

"(h) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

"(i) The National Roster of Scientific and Specialized Personnel shall be transferred from the United States Employment Service to the Foundation, together with such records and property as have been utilized or are available for use in the administration of such roster as may be determined by the President. The transfer provided for in this subsection shall take effect at such time or times as the President shall direct.

"SECURITY PROVISIONS

"SEC. 15. (a) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. To the extent that such activity involves restricted data as defined in the Atomic Energy Act of 1946 the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946.

"(b) (1) In the case of scientific or technical research activities under this Act in connection with matters relating to the national defense, with respect to which funds have been transferred to the Foundation from the Department of Defense in accordance with the provisions of section 14 (h) of this Act, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as he deems necessary.

"(2) In the case of scientific research activities under this Act in connection with matters relating to the national defense other than research activities referred to in paragraph (1) of this subsection, the Foundation shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as it deems necessary.

"(3) Any agency of the Government exercising investigatory functions is hereby authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) or (2) of this subsection.

"(c) No employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions have been established under subsection (b) (1) or (2) until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported the findings of said investigation to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security.

"(d) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this Act shall be used to make payments under any scholarship or fellowship to any individual unless such individual (1) has executed and filed with the Foundation an affidavit that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods, and (2) has taken and subscribed to an oath or affirmation in the following form: 'I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic.' The provisions of section 1001 of title 18, United States Code, shall be applicable with respect to such affidavits.

"APPROPRIATIONS

"SEC. 16. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated to the Founda-

dition, out of any money in the Treasury not otherwise appropriated, not to exceed \$500,000 for the fiscal year ending June 30, 1951, and not to exceed \$15,000,000 for each fiscal year thereafter.

"(b) Appropriations made pursuant to the authority provided in subsection (a) of this section shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the Acts making such appropriations."

And the House agree to the same.

J. PERCY PRIEST,
ANDREW J. BIEMILLER,
GEO. HOWARD WILSON,
CARL HINSHAW,
JOSEPH P. O'HARA,

Managers on the Part of the House.

ELBERT D. THOMAS,
JAMES E. MURRAY,
HERBERT H. LEHMAN,
ROBERT A. TAFT,
H. ALEXANDER SMITH,

Managers on the Part of the Senate.

STATEMENT

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendment of the House to the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, submit the following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The House amendment was passed in lieu of all of the Senate bill after the enacting clause. The accompanying conference report recommends the adoption of a substitute for both the Senate bill and the House amendment.

The substitute agreed to in conference follows in general the pattern of the House amendment, including the organizational structure providing for a Foundation consisting of a Board and a Director.

The differences between the House amendment and the conference substitute are explained below, except for minor clerical, clarifying, and conforming changes.

FOUNDATION'S REPORT TO PRESIDENT AND CONGRESS

By section 3 (c) of the conference substitute the Foundation is required to make an annual report to the President for submission to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. This subsection is the same as it appeared in the House amendment, except that there is included a requirement that the Foundation's report shall contain the minority views and recommendations, if any, of members of the Board.

DIRECTOR OF THE FOUNDATION

Section 5 of the House amendment contained the following sentence: "There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate, after receiving recommendations from the Board." In this sentence, the words "after receiving recommendations from the Board" replaced the words "after the members of the Foundation have been appointed and qualified" which were contained in the same sentence in the Senate bill. In lieu of this sentence the conference substitute contains the following two sentences: "There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate. The Board may make recommendations to the President with respect to the appointment of the Director, and the Director shall not

be appointed until the Board has had an opportunity to make such recommendations."

Section 5 (b) of the conference substitute, relating to the powers and duties of the Director, is the same provision contained in the House amendment except that it has been modified to make it clear that in each instance where the Director takes any final action under section 10 or 11 (c) the Board must review and specifically approve the action proposed to be taken. It is the view of the conference committee that this requirement makes more certain than otherwise might be the case that, in conformity with section 3 (b), contracts or other arrangements made under section 11 (c) for carrying on basic scientific research activities will not be unduly concentrated in a few organizations or institutions or in a limited area of the Nation.

POWERS TO CREATE AN EXECUTIVE COMMITTEE AND OTHER COMMITTEES

The Senate bill, in section 4 (e), authorized the Foundation to appoint an Executive Committee from among its members, and to appoint from among its members or otherwise such other committees as it deemed necessary, and to assign to such Executive Committee or other committees such powers and functions as it deemed appropriate for the purposes of the act.

The House amendment, in section 6, created an Executive Committee and provided that, in addition to the powers and duties specifically vested in it by the act, the Executive Committee "shall exercise such powers and duties as may be delegated to it by the Board." The House amendment granted no authority, similar to that granted by the Senate bill, for the creation of other committees. Section 6 of the House amendment also contained specific provisions as to the membership of the Executive Committee, the terms of office of members, a requirement that members should be representative of diverse interests and be chosen so as to provide representation so far as practicable for all areas of the Nation, and contained a provision as to the making by the Executive Committee of an annual report by the Board.

Section 6 of the conference substitute combines the Senate and House provisions above referred to as follows:

(1) It grants to the Board the authority to create an Executive Committee and to assign to the Executive Committee such powers and functions as may be deemed appropriate, except that it is provided that the Board may not assign to the Executive Committee the function of establishing policies, or the function of review and approval (except review and approval of minor modifications of contracts or other arrangements previously approved by the Board), to be exercised by the Board in accordance with section 5 (b).

(2) The section further provides that if an Executive Committee is established by the Board it shall consist of nine members of the Board elected by the Board, and of the Director as a nonvoting ex officio member; and it contains provisions, similar in general to those contained in the House amendment, as to terms of office, representation of diverse interests, and the making of an annual report to the Board.

(3) It authorizes the Board to appoint from among its members or otherwise such committees as the Board deems necessary, and authorizes the Board to assign to such committees such survey and advisory functions as the Board deems appropriate.

CONTRACTS OR ARRANGEMENTS FOR RESEARCH RELATING TO THE NATIONAL DEFENSE

In both the Senate bill and the House amendment (sec. 4 (a) (3) of the Senate bill and sec. 3 (a) (3) of the House amend-

ment) the Foundation was authorized and directed, after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research. Section 10 (c) of the Senate bill authorized the Foundation to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deemed necessary to carry out the purposes of the act. In this section no reference was made to contracts or arrangements for scientific research in connection with matters relating to the national defense. Section 11 (c) of the House amendment contained an authorization similar to that contained in section 10 (c) of the Senate bill, but also authorized the Foundation to enter into contracts or other arrangements, with the approval of the Secretary of Defense, for the carrying on of scientific research activities in connection with matters relating to the national defense.

Both section 10 (c) of the Senate bill and section 11 (c) of the House amendment authorized the Foundation to enter into contracts or other arrangements or modifications thereof, without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes.

In the conference substitute section 3 (a) (3) is a modification of section 4 (a) (3) of the Senate bill and section 3 (a) (3) of the House amendment, and reads as follows: "Sec. 3. (a) The Foundation is authorized and directed—

"(3) at the request of the Secretary of Defense, to initiate and support specific scientific research activities in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;"

Section 11 (c) of the conference substitute is a modification of section 10 (c) of the Senate bill and section 11 (c) of the House amendment, and reads as follows:

"Sec. 11. The Foundation shall have the authority—

"(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this Act, and, at the request of the Secretary of Defense, specific scientific research activities in connection with matters relating to the national defense, and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes;"

The fact that under the conference substitute the Foundation is authorized, at the request of the Secretary of Defense, to engage in specific scientific research activities relating to the national defense (research which may be basic or applied in character) does not place a limitation on the authority of the Foundation to engage in basic scientific research.

SECURITY PROVISIONS

In the conference substitute the provisions with respect to security safeguards have been brought together in section 15.

This section has been given very full and careful consideration, in consultation with representatives of the Department of Justice, the Atomic Energy Commission, and the Department of Defense.

The objective of the conferees has been to provide for full and adequate security safeguards, while at the same time meeting certain points raised by the Department of Justice and the Secretary of Defense with respect to two provisions contained in the House amendment. It is believed that this objective has been successfully accomplished.

The following explanation of section 15 points out how it differs from the security provisions contained in the Senate bill and the House amendment.

Subsection (a): This subsection, relating to research in the field of nuclear energy, is identical with subsection 14 (k) of the Senate bill and subsection 14 (j) of the House amendment, except that a new sentence, shown in italic type in the subsection as reproduced below, has been added:

"(a) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. *To the extent that such activity involves restricted data as defined in the Atomic Energy Act of 1946 the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable.* Nothing in this act shall supersede or modify any provision of the Atomic Energy Act of 1946.

The committee of conference is satisfied that this subsection is entirely adequate to give full security protection in connection with any activity of the Foundation in the field of nuclear energy involving restricted data. The provisions of the Atomic Energy Act of 1946 (including penalties) will be fully applicable with respect to any such activity and to those individuals who are engaged in it. With respect to this subsection, Acting Chairman Sumner T. Pike, of the Atomic Energy Commission, in a letter dated April 12, 1950, addressed to the chairman of the committee of conference, made the following statement with particular reference to the new sentence which has been included in this subsection:

"It is the purpose of this language to make explicit that which is implicit in section 14 (j) as presently drafted with particular emphasis placed on those security provisions of the Atomic Energy Act of 1946 which would be applicable to certain activities of the Foundation in the field of nuclear energy. The effect of this section together with the suggested additional language is to make it clear that all those who receive restricted data (as defined in the Atomic Energy Act) through work with the Science Foundation shall be investigated by the Federal Bureau of Investigation as to character, associations, and loyalty and shall be cleared by the Atomic Energy Commission."

Subsections (b), (c), and (d): These subsections are included in section 15 of the conference substitute in lieu of subsection 10 (b) of the House amendment; subsection 14 (l) of the Senate bill and subsection 14 (k) of the House amendment; and subsections 14 (l) and (m) of the House amendment.

Subsections (b), (c), and (d) of section 15 of the conference substitute are as follows:

"(b) (1) In the case of scientific or technical research activities under this Act in connection with matters relating to the na-

tional defense, with respect to which funds have been transferred to the Foundation from the Department of Defense in accordance with the provisions of section 14 (h) of this Act, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as he deems necessary.

"(2) In the case of scientific research activities under this Act in connection with matters relating to the national defense other than research activities referred to in paragraph (1) of this subsection, the Foundation shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as it deems necessary.

"(3) Any agency of the Government exercising investigatory functions is hereby authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) or (2) of this subsection.

"(c) No employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions have been established under subsection (b) (1) or (2) until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported the findings of said investigation to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security.

"(d) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this Act shall be used to make payments under any scholarship or fellowship to any individual unless such individual (1) has executed and filed with the Foundation an affidavit that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods, and (2) has taken and subscribed to an oath or affirmation in the following form: 'I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic.' The provisions of section 1001 of title 18, United States Code, shall be applicable with respect to such affidavits."

Subsection (d) is the same as section 10 (b) of the House amendment, except that it contains an additional requirement that before funds may be paid to an individual under a scholarship or fellowship such individual must subscribe to the following oath or affirmation:

"I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic."

Section 1001 of title 18, the penalties of which are by subsection (d) made applicable with respect to false affidavits executed under that subsection, applies only in the case of violations knowingly and willfully committed.

Subsection (b) is a modification of subsection 14 (l) of the Senate bill and subsection 14 (k) of the House amendment and requires the establishment of such security requirements and safeguards, including restrictions with respect to access to information and property, as may be deemed necessary in connection with research activities

under the act in connection with matters relating to the national defense. Such requirements and safeguards will be established by the Secretary of Defense in the case of research carried on with funds transferred from the Department of Defense, and by the Foundation in the case of research carried on with other funds.

Subsections 14 (l) and (m) of the House amendment (quoted in full below at the beginning of the letter from the Department of Justice) required a specified investigation and report to be made by the Federal Bureau of Investigation with regard to any individual before he could be employed by the Foundation or awarded a scholarship, or, in the case of a national of a foreign country, before he could become associated with the Foundation in any capacity.

Serious objections have been made to these provisions of the House amendment by the Department of Justice and the Secretary of Defense. These objections are based on reasons which may be summarized as follows:

(1) If enacted, section 14 (l) would require the Federal Bureau of Investigation not only to investigate employees of the Foundation and applicants for scholarships but to evaluate the information collected through its investigation. This requirement would seriously impair the efficiency and reputation of the Federal Bureau of Investigation as an investigating agency.

(2) Section 14 (l) would preclude employment of, or awarding of scholarships to, persons who at any time have been members of so-called "front organizations" regardless of whether such persons withdrew from such organizations when they first suspected their subversive character. To deny to such persons an opportunity to prove that their membership was innocent would unjustly penalize many completely loyal Americans who innocently joined such organizations, and the denial of such opportunity would be inconsistent with American concepts of justice and fairness.

(3) Section 14 (m) would require investigations to be carried on by the Federal Bureau of Investigation of foreign nationals in foreign countries. This requirement would be impractical since the Federal Bureau of Investigation does not have facilities for conducting investigations abroad.

The objections of the Department of Justice and the Secretary of Defense were set forth in identical letters to Senator ELBERT D. THOMAS, chairman of the Senate Committee on Labor and Public Welfare and chairman of the committee of conference, and to Hon. ROBERT CROSSER, chairman of the House Committee on Interstate and Foreign Commerce, the letter to Mr. CROSSER being as follows:

DEPARTMENT OF JUSTICE,
OFFICE OF THE ASSISTANT TO
THE ATTORNEY GENERAL,
Washington, March 6, 1950.

Hon. ROBERT CROSSER,
Chairman, Committee on Interstate
and Foreign Commerce,
House of Representatives,
Washington, D. C.

MY DEAR MR. CHAIRMAN: The legislation to establish the National Science Foundation (S. 247 and H. R. 4846) has been amended within the past few days in a manner which has caused me deep concern. I refer to two amendments added by the House of Representatives to S. 247. The first of these amendments reads as follows:

"(1) No person shall be employed by the Foundation and no scholarship awarded to any person by the Foundation unless and until the Federal Bureau of Investigation shall have investigated the loyalty of such person and reported to the Foundation such person is loyal to the United States, believes in our system of government, and is not and has not at any time been a member of any organization declared subversive by the At-

torney General or any organization that teaches or advocates the overthrow of our Government by force and violence."

The second amendment provides:

"(m) No person a national of a foreign country shall be associated with the Foundation in any capacity whatsoever unless and until the Federal Bureau of Investigation, independent of any investigation made by the government of such person, shall have investigated such person and reported to the Foundation that such person is not and has not at any time been a member of any organization that teaches or advocates the overthrow of the Government of the United States by force or violence."

I, of course, am firmly of the belief that disloyal persons should not be in the employ of the National Science Foundation. The amendments, however, go beyond this. Should they be enacted into law they would not only effect an extremely radical and undesirable change in the basic responsibilities and functions of the Federal Bureau of Investigation but also, in my opinion, they would bring about a departure from American concepts of justice and democratic government.

The Bureau is at the present time solely an investigative and fact-gathering agency; it does not evaluate or make recommendations with reference to the information it collects through its investigations. In loyalty investigations, as in others, the Bureau submits the information it has obtained through investigation for the consideration of the employing agency and for such determinations by that agency as may be required. The fine reputation which I believe the Bureau enjoys today as an impartial investigative agency results in large part because it has carefully restricted its activities to the making of investigations. Indeed, while the Bureau's expertness and high qualifications in this field would be challenged by no one, it is not equipped to go beyond the field of investigation and into that of making the determinations called for by the amendments. If the Bureau were called upon to perform the functions required by the amendments, its efficiency and good reputation as an investigative agency would be seriously impaired.

The enactment of either of the amendments mentioned above would remove the Bureau from its position as an impartial fact-gathering organization and impose upon it the responsibility for making decisions concerning the loyalty of individuals under consideration by the National Science Foundation for employment or for a fellowship under the act. To place the Bureau in the position of an evaluating agency regarding the loyalty of persons affected by this legislation is fraught with peril, not only to the Bureau itself, but also to the country at large. In the opinion of the Director of the Federal Bureau of Investigation, with which I agree, such legislation would constitute a clear departure from accepted fundamental theories of American government and lay a foundation for criticism of the Bureau as a state police organization.

It is also to be noted that the amendments, in precluding the employment of, or the awarding of a scholarship to, any person who has "at any time been a member of" any subversive organization seeks to deny to the Foundation the services of many Americans of unquestionable loyalty to the United States and its form of government who innocently joined a so-called "front" organization with the highest motives and who withdrew their membership from such organization upon their first suspicion of its subversive character.

It is characteristic of many "front" organizations that their purported purposes and programs are designed to appeal to loyal

Americans and frequently it is behind a screen of respectability, loyalty, and even patriotism that subversive activities are carried on, often by only a few disloyal persons. In other instances a small minority subvert an organization of previously good purposes and having many members of unquestionable loyalty to the United States. This amendment would unjustly penalize many completely loyal Americans who innocently joined such organizations and would, in some measure, tend to defeat the carrying out of the purposes of the act.

The amendments also overlooked the fact that under the employee loyalty program, membership in an organization on the Attorney General's list is regarded as merely one piece of evidence pointing to possible disloyalty. The loyalty program enables an employee who is a member of a listed organization to respond to charges against him and to show that his membership is innocent and does not reflect upon his loyalty. This opportunity to defend oneself in a manner consistent with American concepts of justice and fairness is lacking from the amendments.

It is also to be noted, with regard to the second amendment above quoted, that a very practical difficulty exists with respect to the proposed investigation of foreign nationals by the Federal Bureau of Investigation, in that the Bureau does not have facilities for conducting investigations abroad.

For the reasons above stated, I request and hope that you will make every effort to eliminate the amendments in question before final enactment of the National Science Foundation Act of 1949, thus leaving investigations of the personnel of this agency to be conducted on the same basis as investigations of personnel of other non-sensitive agencies.

I am authorized to state that this letter also reflects the views of the Secretary of Defense.

The Director of the Bureau of the Budget has advised that there is no objection to the submission of this recommendation.

Yours sincerely,

PEYTON FORD,

The Assistant to the Attorney General.

In reaching agreement on the provisions of section 15 the committee of conference has retained the purposes of subsections 14 (l) and (m) of the House amendment so far as it has been practicable to do so, but great weight has necessarily been given to the strongly expressed views of the Department of Justice and the Secretary of Defense.

The text of section 15 has been examined by representatives of the Department of Justice, and on April 25, 1950, the Honorable Peyton Ford, Assistant to the Attorney General, sent a joint letter to the chairman and vice chairman of the committee of conference in which he stated:

"The Department of Justice would have no objection to the proposed new section 15."

The committee of conference is convinced that the provisions of section 15 are adequate with regard to the loyalty investigation of individuals who will become employees of the Foundation or holders of scholarships or fellowships, or who will be associated with the Foundation in any way.

A draft of the proposed section 15 was submitted to the Department of Defense, and a letter regarding it was addressed to the chairman of the committee of conference on April 24, 1950, by Mr. William Webster, Chairman of the Research and Development Board of the Department. The letter states in part as follows:

"This draft has been examined with care, for the Department of Defense has long been

strongly in favor of the establishment of a National Science Foundation. The proposed security provision seems to strike a proper balance between two objectives. It recognizes, one, the need to protect research and development related to the national defense according to the possible damage which could result from the disclosure to a potential enemy of information concerning it and, two, the need that scientific research, particularly basic research, be open in order to achieve maximum progress.

"It is our understanding that the National Science Foundation would deal principally with basic research and other matters of a nonclassified nature and that the authorization for it to engage in applied research in connection with matters relating to the national defense is designed primarily to enable the Foundation to assist the military effort in a small number of cases or in the event of an emergency. It does not appear that the volume of such work relating to the national defense will be significant, particularly classified work of that type. In view of the limitation on appropriations authorized for the Foundation, it may be expected that the bulk of such work would be carried on by funds transferred from the Department of Defense. In cases of this type, authority is provided to the Department by the proposed subsection (b) (1) to ensure that adequate security precautions are taken wherever necessary. It is assumed that the subsection would authorize controls relating to any person who might have access to classified information including fellows and employees of the Foundation and its contractors. The caliber of men who will constitute the Foundation—appointed by the President and confirmed by the Senate—should provide assurance that the Foundation would take adequate precautions with respect to research supported by it and related to the national defense, if there be any. Furthermore, it is noted that all employees of the Foundation must be fully investigated and cleared before being given access to any classified information.

"I understand that subsection (a) of the proposed security provisions has been approved by the Atomic Energy Commission. It appears that the principles involved in the proposed provisions and the provisions themselves will be satisfactory, particularly in view of the assurance above-mentioned that the Department of Defense would establish requirements covering the security of all research work supported with its funds. This letter has been coordinated among the departments and agencies of the Department of Defense in accordance with procedures established by the Secretary of Defense. Shortness of time, however, has prevented submission of it to the Bureau of the Budget for clearance."

It has already been pointed out in the explanation of subsection (a) that full investigation by the Federal Bureau of Investigation will be required, under the Atomic Energy Act of 1946, before individuals are permitted to have access to restricted data as defined in that act.

Subsection (c) provides that no employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions are established under subsection (b) (1) or (2), with respect to research related to the national defense, until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported its findings to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security. The investigation thus required is the same

as that required under the Atomic Energy Act of 1946. Since the members of the Board and the Director will not be employees of the Foundation, but officers appointed by the President, by and with the advice and consent of the Senate, subsection (c) will not apply to them.

Under subsection (b) the security safeguards to be established by the Secretary of Defense and the Foundation in connection with research activities of the Foundation related to the national defense may provide for such investigations of scholarship and fellowship holders, employees of contractors, and others, as may be deemed necessary.

In order that the Federal Bureau of Investigation, the Central Intelligence Agency, and any other appropriate agency of the Government will have authority to make the investigations provided for pursuant to subsection (b), a paragraph (3) has been included specifically authorizing any agency of the Government exercising investigatory functions to make such investigations and reports as may be requested by the Foundation. Nothing in section 15 of the conference substitute is intended in any way to alter the present authority of the Federal Bureau of Investigation in matters dealing with internal security.

The provisions of subsection (b) are consistent with the method of imposing and enforcing security safeguards which is presently in effect with respect to the Department of Defense. In the case of that Department, it is left to its judgment to determine the instances in which to require investigations of individuals before they are permitted to have access to classified matters and, depending on the degree of secrecy involved, the nature and extent of the investigation to be made of particular individuals.

As indicated in the letter from the Chairman of the Research and Development Board, the Foundation's activities will be almost exclusively in basic research. Basic research generally does not involve security problems. It is confidently anticipated that only a very small part of its activities will be concerned with research on matters related to restricted data in the field of nuclear energy or related to the national defense—the two fields in which problems of security may be involved. It is the considered judgment of the committee of conference that to the very limited extent that activities of the Foundation will involve security problems, section 15 of the conference substitute provides a sound and satisfactory method of dealing with those problems.

It is unnecessary to include in this legislation special penal provisions with respect to violations of the security requirements and safeguards which will be in effect thereunder. As already pointed out, the penalties provided by the Atomic Energy Act of 1946 (in sec. 10 thereof) will apply with respect to any activity involving restricted data in the field of research related to nuclear energy. These penalties are wholly adequate. In the field of research related to the national defense, the same penalties which now apply to security matters concerning the Department of Defense will be applicable. These penalties are contained in title 18 of the United States Code, principally in chapter 37 thereof. Sections 793 and 794 of that chapter are as follows:

"§ 793. Gathering, transmitting or losing defense information.

"Whoever, for the purpose of obtaining information respecting the national defense with intent or reason to believe that the information is to be used to the injury of the United States, or to the advantage of any foreign nation, goes upon, enters, flies over, or otherwise obtains information concerning any vessel, aircraft, work of defense, navy yard, naval station, submarine base, fueling station, fort, battery, torpedo station, dockyard, canal, railroad, arsenal, camp, factory, mine, telegraph, telephone, wireless, or sig-

nal station, building, office, or other place connected with the national defense, owned or constructed, or in progress of construction by the United States or under the control of the United States, or of any of its officers, departments or agencies, or within the exclusive jurisdiction of the United States, or any place in which any vessel, aircraft, arms, munitions, or other materials or instruments for use in time of war are being made, prepared, repaired, or stored, under any contract or agreement with the United States, or any department or agency thereof, or with any person on behalf of the United States, or otherwise on behalf of the United States, or any other prohibited place so designated by the President by proclamation in time of war or in case of national emergency in which anything for the use of the Army or Navy is being prepared or constructed or stored, information as to which the President has determined would be prejudicial to the national defense; or

"Whoever, for the purpose aforesaid, and with like intent or reason to believe, copies, takes, makes, or obtains, or attempts to copy, take, make, or obtain, any sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, document, writing, or note of anything connected with the national defense; or

"Whoever, for the purpose aforesaid, receives or obtains or agrees or attempts to receive or obtain from any person, or from any source whatever, any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, or note, of anything connected with the national defense, knowing or having reason to believe, at the time he receives or obtains, or agrees or attempts to receive or obtain it, that it has been or will be obtained, taken, made or disposed of by any person contrary to the provisions of this chapter; or

"Whoever, lawfully or unlawfully having possession of, access to, control over, or being intrusted with any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, or note relating to the national defense, willfully communicates or transmits or attempts to communicate or transmit the same to any person not entitled to receive it, or willfully retains the same and fails to deliver it on demand to the officer or employee of the United States entitled to receive it; or

"Whoever, being intrusted with or having lawful possession or control of any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, note, or information, relating to the national defense, through gross negligence permits the same to be removed from its proper place of custody or delivered to anyone in violation of his trust, or to be lost, stolen, abstracted, or destroyed—

"Shall be fined not more than \$10,000 or imprisoned not more than ten years, or both.

"§ 794. Gathering or delivering defense information to aid foreign government.

"(a) whoever, with intent or reason to believe that it is to be used to the injury of the United States or to the advantage of a foreign nation, communicates, delivers, or transmits, or attempts to communicate, deliver, or transmit, to any foreign government, or to any faction or party or military or naval force within a foreign country, whether recognized or unrecognized by the United States, or to any representative, officer, agent, employee, subject, or citizen thereof, either directly or indirectly, any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, note, instrument, appliance, or information relating to the national defense, shall be imprisoned not more than twenty years.

"(b) Whoever violates subsection (a) in time of war shall be punished by death or by imprisonment for not more than thirty years.

"(c) Whoever, in time of war, with intent that the same shall be communicated to the enemy, collects, records, publishes, or communicates, or attempts to elicit any information with respect to the movement, numbers, description, condition, or disposition of any of the armed forces, ships, aircraft, or war materials of the United States, or with respect to the plans or conduct, or supposed plans or conduct of any naval or military operations, or with respect to any works or measures undertaken for or connected with, or intended for the fortification or defense of any place, or any other information relating to the public defense, which might be useful to the enemy, shall be punished by death or by imprisonment for not more than thirty years.

"(d) If two or more persons conspire to violate this section, and one or more of such persons do any act to effect the object of the conspiracy, each of the parties to such conspiracy shall be subject to the punishment provided for the offense which is the object of such conspiracy."

RESEARCH ACTIVITIES OF OTHER GOVERNMENT AGENCIES

Section 14 of the Senate bill contained the following subsection not contained in the House amendment:

"(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development."

This provision has not been included in the conference substitute. No such provision seems needed to insure continuance of research which is or may be carried on by other Government agencies under specific statutory authority and the provision seemed so broad and inflexible in its terms that its inclusion might unduly interfere with the administrative coordination through the National Science Foundation of activities in the basic sciences being carried on by various Government agencies.

Moreover, debate in the House over the striking out of a similar provision in the House bill as introduced made it clear that omission of the provision in no way implies that the Foundation is authorized to take over the research functions which have been granted other agencies by law or that the exercise of those functions is to be curtailed. It was made especially clear in the debate that its omission would not result in any limitation or curtailment of the programs of research in the fields of medicine and related activities being carried on by the National Institutes of Health or other units of the United States Public Health Service. After discussion of the nature of the research being carried on by the Institutes or supported by them, the committee of conference agreed with this interpretation.

TRANSFER OF NATIONAL ROSTER OF SCIENTIFIC AND SPECIALIZED PERSONNEL

Section 14 (i) of the conference substitute relates to the transfer to the Foundation of the National Roster of Scientific and Specialized Personnel, which is now in the United States Employment Service. The provision is the same as in the House amendment, except that the President, rather than the Director of the Bureau of the Budget, will have the authority to determine the records and property to be transferred with the roster and the time when the transfer shall take effect. This modification has been taken from the corresponding provision in the Senate bill.

J. PERCY PRIEST,
ANDREW J. BIEMILLER,
GEO. HOWARD WILSON,
CARL HINSHAW,
JOSEPH P. O'HARA,

Managers on the Part of the House.

I do not intend, Mr. Speaker, to spoil these exhibits for my colleagues by trying to describe here all of the amazing new developments they depict or the infinite variety of products which exist today only because of the technological strides which have marked the progress of this industry over the years, but I do believe that all of us will profit by at least a reasonable knowledge of what the steel industry has done, what it is doing, and how it affects almost every other major industry in America. I know of no better way to obtain that background of knowledge than to spend a few minutes studying the exhibits which United States Steel is displaying here this week.

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

Mr. PRIEST. Mr. Speaker, I call up the conference report on the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, and ask unanimous consent that the statement of the managers on the part of the House be read in lieu of the report.

The Clerk read the title of the bill.

The SPEAKER. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

The Clerk read the statement.

(For conference report and statement, see proceedings of the House of April 26, 1950.)

Mr. PRIEST (interrupting the reading of the statement). Mr. Speaker, I ask unanimous consent that the further reading of the statement be dispensed with.

The SPEAKER. Is there objection to the request of the gentleman from Tennessee?

Mr. RICH. Reserving the right to object, Mr. Speaker, will the gentleman give us a complete explanation of just the differences between this bill as it is now and when it left the House.

Mr. PRIEST. The gentleman will attempt to do so to the best of his ability.

Mr. RICH. Just so we know what it is.

Mr. PRIEST. That is my intention. It is a rather long statement. It was printed in the RECORD this morning, beginning at page 5828. I intend to explain the conference report.

Mr. RICH. We may have some questions about it.

Mr. WADSWORTH. Reserving the right to object, Mr. Speaker, will the gentleman not agree that it might be wise to allow the Clerk to read the paragraph he has just begun, which has to do with security?

Mr. PRIEST. Yes. I will withdraw the request until the Clerk has finished that paragraph.

(The Clerk concluded reading the paragraph.)

Mr. PRIEST (interrupting the reading of the statement). Mr. Speaker, I ask unanimous consent that further reading of the statement be dispensed with.

The SPEAKER. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

Mr. PRIEST. Mr. Speaker, I yield myself 10 minutes.

Mr. Speaker, the conference report that is brought in this morning on the National Science Foundation bill is a unanimous report. It is a report agreed to unanimously after a number of meetings of the committee on conference and following several conferences with the Atomic Energy Commission, the Military Establishment, and the Department of Justice.

We believe that the bill we bring to you in the conference report is the best Science Foundation bill that has been produced after 4 years of effort along this line. The conference report substantially is the bill as it passed the House. Before going into an explanation of some of the changes that might be important let me say that in practically all instances the Senate conferees accepted the House version of the bill.

There was one rather important difference on which there was an agreement in the form of a compromise. That was with reference to the executive committee provided for the Foundation by the Senate bill and the House bill. In the Senate bill the executive committee was permissive. It simply made provision that the Board might appoint an executive committee and assign to it certain powers and functions.

The House committee reported a bill, and the House passed a bill, providing that the executive committee be mandatory, and then spelled out a pattern for the executive committee with reference to the number of members, their terms of office, how they should be selected, and all other matters that usually apply in such a case.

In the conference it was agreed that the executive committee would be permissive but that if the executive committee should be appointed by the Board, then it should follow the pattern previously set out in the House bill. That was about the only point in which the House bill did not prevail all the way with the exception of the security provisions, which constitute an entirely new section. You may recall that when the bill was before the House it had in it one security provision which was the requirement that all applicants for fellowships and scholarships shall execute an affidavit and place it on file. The Senate bill had no security provision whatsoever.

When we went into conference the first agreement was that we must have some security provision in the bill. In consideration of the bill on the floor of the House a number of amendments along that line had been offered, including the one offered by the gentleman from Virginia [Mr. SMITH], one by the gentleman from Pennsylvania [Mr. FLOOD], and others. The conferees agreed immediately that we would have to have adequate security provisions when we brought the bill back to the respective Houses.

Having made that agreement we then met for several conferences with our own staff and agreed in principle as to just what those provisions should be. Some of us engaged also in conferences

with the Atomic Energy Commission, with the Military Establishment and the Department of Justice. We had as one of the conferees, of course, the gentleman from California [Mr. HINSHAW], who is also a member of the Joint Atomic Energy Committee, and I want to express here my very deep appreciation for the great help he gave us in that respect. So in the conference we have written a new security provision, as section 15. Just briefly I will explain in substance what the security provisions in the conference report are as we bring it to you today.

We provide that the Foundation shall support no research in the field of atomic energy without the approval of the Atomic Energy Commission. If it does support such research, then all of the provisions of the Atomic Energy Act of 1946, including all of the penalties in that act, shall apply in every respect just as they do in the Atomic Energy Act. That takes care of that situation very well, and as you will note by the letter from Mr. Sumner Pike set out in the report, the Atomic Energy Commission is very well satisfied with that provision.

The same situation applies with any research which the Foundation may support with reference to the Military Establishment. All of the laws apply as they apply now to any research that might be undertaken by any research agency for the national defense.

Before going further with the security provisions, I want to point to one particular change at this time. When the bill was on the floor a number of questions were asked as to why the Foundation should support any research involving the national defense. That question came up a number of times. The provisions in the bill at that time were that after a consultation with the Secretary of Defense the Foundation may support certain specific research projects for the national defense. The more we studied this provision in conference the more we came to the conclusion that the emphasis in the National Science Foundation should be on basic research. It was not intended to take over applied or technical research of the Military Establishment. However, we wanted authority in the law in case of an emergency, for the Secretary of Defense to call on the Foundation for any specific research that might be necessary.

The change that has been made in two places in the bill with reference to the participation of the Foundation in supporting research for the Military Establishment is that it may do so at the request of the Secretary of Defense.

That, I think, is better language, and all of the conferees thought that it was better than to leave it as we had it "after consultation with."

Now, at the request of the Secretary of Defense the Foundation may support research projects relating to the National Defense. To proceed a bit further with the security provisions, we also provide that the Foundation may call upon any investigating agency of the Government, and that may be the FBI, it may

be Central Intelligence, it may be any other agency that does investigating, for a report on individuals if those individuals in any way have access or may have access to the classified information in any field of research. We provide in the bill the requirement that all applicants for fellowships and scholarships shall file with the Foundation a loyalty affidavit. We added to that also the requirement that applicants take the oath of allegiance, which is substantially the same oath that Members of the House of Representatives take when they are sworn in, the oath of allegiance to the United States.

I believe, Mr. Speaker, that a careful study of the security provisions now in the conference report will satisfy everyone that the conferees, even as the House was originally, were greatly interested in seeing that adequate, workable security provisions were included in the bill. We bring it here in a form that we believe contains adequate provisions all along the line from the standpoint of security, with adequate penalties, where a penalty may be necessary.

Mr. RICH. Mr. Speaker, will the gentleman yield?

Mr. PRIEST. I yield to the gentleman from Pennsylvania.

Mr. RICH. The executive committee that was set up is composed of members of the board of directors who will look after this organization, is that correct?

Mr. PRIEST. That is correct.

Mr. RICH. The members of the board of directors, as it was set up, were each to be paid a pretty good salary. Will the executive committee receive additional compensation?

Mr. PRIEST. May I state to the gentleman from Pennsylvania that the members of the Board are not paid any salary, nor are the members of the executive committee paid any salary. They would be allowed per diem expenses when engaged on work for the Foundation. The Director, the Assistant Director, and what clerical staff may be necessary, are the only salaried employees.

Mr. RICH. That is different from the House bill then.

Mr. PRIEST. No. I believe the gentleman is perhaps a little confused there. Neither bill ever contained any provision for salaries for the executive committee, or the board.

Mr. RICH. Well, then, will this Board, as set up, cooperate and work with the various boards that are trying to make discoveries in colleges and other foundations? Are they going to work with them or are they going to work alone?

Mr. PRIEST. It is still permissive in the bill, but assuming that an executive committee is established within the Board, it simply will be a group of nine members of the Board who may be able to transact business a little more expeditiously than would be the case if the entire Board had to act on all matters. The executive committee simply will carry out the program of the Foundation. The Board cannot delegate to the executive committee, however, the func-

tion of making policies, nor can it delegate to the committee the authority to sign contracts and agreements until the Board has approved them, that is, the entire Board. The bill does provide that minor modifications of contracts may be approved by the executive committee.

Mr. Speaker, I yield 5 minutes to the gentleman from California [Mr. HINSHAW].

Mr. HINSHAW. Mr. Speaker, it is my opinion that this conference report on the National Science Foundation bill which we bring here makes it a much better bill than either the House or the Senate version, because we have been able to utilize the suggestions made when the bill was on the floor of the House, with certain amendments offered, as a basis for genuine improvement.

I should like to speak briefly in reference to the security provisions, because when the bill left the House the security provisions were spread hither and yon throughout the bill. They now have been concentrated in one place, section 15, where they are easily seen and understood. There is no conflict in the bill at the present time in this respect as there was when the bill left the House.

I have no intention of discussing this matter at great length, so will be glad to answer any questions.

Mr. WADSWORTH. Mr. Speaker, will the gentleman yield?

Mr. HINSHAW. I yield to the gentleman from New York.

Mr. WADSWORTH. Does the conference report contain the provision which was inserted by the House with respect to the \$15,000,000 limitation?

Mr. HINSHAW. The conference report contains the limitations as they left the House, yes, \$15,000,000 as a ceiling for direct appropriations and \$500,000 for the first year, fiscal 1951.

Mr. WADSWORTH. The gentleman from Tennessee and also the gentleman from California will remember I opposed this bill on the floor of the House for certain reasons which I regarded as fundamental and which I still believe are fundamental. I will say, however, that one of the things that disturbed me most in the House bill was that provision which would permit this foundation to engage in applied science and technical developments. If left in the law, that provision would actually give this foundation the right to go into every kind of research the Nation over, because any scientific research affecting the national defense goes right down to the farm. They could engage in research in the production of food or clothing or shoes, or almost anything. You have cured that, at least, by saying that they shall not do that unless the Secretary of Defense asks them to do it. I hope the Secretary of Defense will make just as few requests as possible in that field so that this foundation, which apparently is going to be established, will be confined largely to basic research.

Mr. HINSHAW. May I reply to my distinguished friend from New York by saying that the conferees on the part of the House had particularly and very clearly in mind the ideas which were expressed by the gentleman from New

York when this bill was on the floor of the House, and we did our very best to bring in a conference report which would be pleasing to the gentleman from New York from the standpoint which he has just now expressed. We hope the gentleman can now support the bill.

Mr. Speaker, this bill, when it becomes law, should go far toward eliminating that lag in education and basic research which occurred by reason of so many of our most brilliant young students having been called into the armed services during the war. It should do much toward assisting in breaking through the present limits of knowledge by advancing the learning of new knowledge of the basic facts in nature.

Mr. PRIEST. Mr. Speaker, I yield 3 minutes to the gentleman from Virginia [Mr. SMITH].

Mr. SMITH of Virginia. Mr. Speaker, when the bill was on the floor I opposed it very largely on the same grounds so ably expressed by the gentleman from New York [Mr. WADSWORTH] in the debate. I offered the amendment which was adopted unanimously by the House on the security provisions, having been disturbed by the lack of such provisions in the bill. I merely want to say that I think the conferees have given very careful, thorough, and adequate consideration to the language necessary to accomplish the desires of the House on that occasion, because, if you recall, my amendment was adopted unanimously by the House. It was hastily drawn. It was subject to the objection that it required the FBI to evaluate as well as secure the information. I am glad to be corrected in that respect. I think the language now adequately covers what I had in mind, and I am very happy that the conferees should have worked the matter out as carefully as they have.

Mr. O'HARA of Minnesota. Mr. Speaker, will the gentleman yield?

Mr. SMITH of Virginia. I yield.

Mr. O'HARA of Minnesota. I share with the gentleman his concern over the national security provision. The gentleman will recall that in the interim between the time the bill was reported out and before it reached the floor of the House the Fuchs case developed which caused everyone a great deal of concern. May I say to the gentleman I believe we spent more time on the security angle of this and I believe we did as fine a job as could be done in trying to draw up the strongest provisions possible dealing with our security. I might even go so far as to say that I believe the provisions as now carried in the bill exceed even the original amendment offered by the gentleman. I assure the gentleman we have the strongest possible security provisions that we could possibly draw up.

Mr. SMITH of Virginia. I thank the gentleman.

Mr. PRIEST. Mr. Speaker, I yield 5 minutes to the gentleman from Minnesota [Mr. O'HARA].

Mr. HINSHAW. Mr. Speaker, will the gentleman yield?

Mr. O'HARA of Minnesota. I yield.

Mr. HINSHAW. Mr. Speaker, I ask unanimous consent that the gentleman

from New Jersey [Mr. WOLVERTON] may extend his remarks at his point in the RECORD.

The SPEAKER. Is there objection to the request of the gentleman from California?

There was no objection.

Mr. WOLVERTON. Mr. Speaker, the House is now in a position to complete legislation on the National Science Foundation bill. This bill I consider one of the greatest achievements of the present session of Congress. It means far more to the future welfare and security of our people than the average person realizes.

The conference report should have the unanimous approval of this House. The bill represents five long years of effort. It should have been an accomplished fact years ago. The intervening years should have been utilized in effecting its purposes. However, it is now our duty to immediately pass the bill and after Presidential approval which I am sure it will receive, see that it is put into operation at the earliest possible moment. There is no excuse for further delay. It is time for action. We cannot afford to put off this important matter any longer.

It is plain to see that the present is a scientific age, and, whether the subject is considered from a military, health, or industrial standpoint, science will undoubtedly play an important part in the future. The purpose of this bill is to develop fundamental or basic science. Its terms are broad enough to pursue research in every kind of scientific endeavor. We need the knowledge that such study can be expected to develop. I am confident that the results will prove not only highly beneficial to our own people but also to the people of the world.

I am proud of the opportunity I have had to participate in the drawing of this important legislation. I am anxious to see the administration of the law conducted in a manner that will bring the beneficial results expected. No law no matter how good its purpose may be, can ever accomplish its fullest expectations unless there is a good administration of it. I am certain that the President realizes the importance of the law, and recognizes the necessity of naming a director and members of the board of the highest quality to provide the wise and effectual administration of the powers and authority granted under its terms.

Great credit should go to Dr. Bush and the other eminent scientists and educators who have toiled so zealously through the years to bring into being this worthwhile legislation. Their interest has been unselfish and with no thought other than to promote the welfare of our Nation and its people.

It is our duty as Members of the House to give our approval now to the conference report and thereby make possible the enactment of the bill without further delay.

Mr. O'HARA of Minnesota. Mr. Speaker, I ask unanimous consent that all Members may have five legislative days to extend their remarks at this point in the RECORD.

The SPEAKER. Is their objection to the request of the gentleman from Minnesota?

There was no objection.

Mr. O'HARA of Minnesota. Mr. Speaker, I join with my colleagues on the conference committee in expressing my appreciation and pleasure for the opportunity of serving with them. It is one of the finest conferences that I have ever served on in my years of experience in the Congress. The conferees worked earnestly to solve the differences between the House and Senate version of the bill and to strengthen the provisions of the bill. I believe the conference has been successful. An excellent job was done by our legislative counsel and the staffs, particularly Mr. Perley, of our legislative counsel, who was of great assistance in drafting changes in the report. Personally, I feel that the bill as it is now before us is far less objectionable and, as a matter of fact, should meet with the approval of many of those who originally may have been opposed to the bill. The purposes of the bill have been clarified, and in some cases generalities have been cleared up.

Mr. Speaker, the conferees have done the best possible job under the circumstances, and the bill should meet with the approval of all.

[Mr. BIEMILLER addressed the House. His remarks will appear hereafter in the Appendix.]

Mr. PRIEST. Mr. Speaker, I yield 2 minutes to the gentleman from Oklahoma [Mr. WILSON].

Mr. WILSON of Oklahoma. Mr. Speaker, I, too, want to join with my colleagues who were members of the conference committee in congratulating our chairman [Mr. PRIEST] for the magnificent way in which he handled this matter, both at the time of the conference and presently on the floor.

I want to point to one thing in the report particularly that may have been forgotten, that these security provisions have been carefully gone into.

In section 15, which is the compilation of security provisions, in subsection (c) there is this language:

(c) No employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions have been established under subsection (b) (1) or (2) until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported the findings of said investigation to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security.

Then in the report it is specifically stated:

Nothing in section 15 of the conference substitute is intended in any way to alter the present authority of the Federal Bureau of Investigation in matters dealing with internal security.

Mr. Speaker, I am sure we are all firmly of the belief that no disloyal person should be in the employ of the National Science Foundation. We are of the firm opinion that the security provisions as now written will do just that.

The SPEAKER. The time of the gentleman from Oklahoma has expired.

Mr. PRIEST. Mr. Speaker, I yield 1 minute to the gentleman from Massachusetts [Mr. HESELTON].

Mr. HESELTON. Mr. Speaker, I was not on the conference committee. But as a member of the general committee, I can express my opinion and conviction that the conference committee has done an excellent and constructive piece of work on this legislation. It should remove any doubts held by any Member as to its wisdom. We can all now look forward with confidence, and I believe a very real measure of relief, to the establishment of the Foundation in the very near future. Properly organized and initiated, it can and will make an invaluable contribution both to our national security and to the future development of this country. I know that those who have worked so diligently and effectively to bring this Foundation into being will have reason to look upon their contributions as among the most significant of their legislative careers.

(Mr. HESELTON asked and was given permission to revise and extend his remarks.)

Mr. PRIEST. Mr. Speaker, I move the previous question.

The previous question was ordered.

The SPEAKER. The question is on agreeing to the conference report.

The conference report was agreed to.

A motion to reconsider was laid on the table.

A SINCERE HEARTFELT WISH

(Mr. DINGELL asked and was given permission to revise and extend his remarks at this point in the RECORD.)

Mr. DINGELL. Mr. Speaker, the second anniversary of Israel's rebirth is an occasion of happiness and rejoicing not confined exclusively to the people of Israel, world Jewry, or the Near East. Being the fulfillment of God's word and the satisfaction of the centuries' old yearning and hunger suffered by the Jews, it now in reality becomes a celebration of Christian as well as Jew and all liberty-loving peoples throughout the world.

Israel is the keystone in the arch of peace in the Near East because its people through blood, sweat, and tears fulfilled more than was expected of them in so short a span of time under tragic circumstances and war, through their sacrifice they made it so.

The determination and advancement shown thus far by Israel is an assurance of stability and peace which points to prosperity and leadership among the family of nations.

America hails a sister Republic with expression of sentiment which flows from the heart. Congratulations and an old familiar "Mazeltov" to the reborn Israel as a free and sovereign state.

NATIONALITY ACT OF 1940

(Mr. KLEIN asked and was given permission to extend his remarks at this point in the RECORD.)

Mr. KLEIN. Mr. Speaker, I have just sent to the Clerk a bill which would repeal the inequitable section 404 (c) of the Nationality Act of 1940.

This is the subsection in which Congress for the first time departed from the

principle of indivisibility of citizenship by providing for the automatic expatriation of naturalized citizens who reside anywhere abroad for 5 years or more.

It is my belief that this section flagrantly violates the spirit of the Constitution and the language of the Constitution.

It creates a caste of second-class citizens with rights and privileges inferior to the rights and privileges of native-born citizens.

This is repugnant to the whole theory of American citizenship and to the noble traditions which have raised the United States, in less than 200 years, from the status of foreign colony to the paramount power of the world.

The section has been held applicable even though such absence is involuntary and in spite of strenuous efforts on the part of the individuals involved to return to this country before the expiration of the 5-year period.

No penalty whatever attaches to similar residence abroad by native-born citizens.

The reason for this overt discrimination against naturalized citizens is obscure.

In the light of our naturalization proceedings the discrimination is wholly illogical.

Both native-born and naturalized citizens are in all respects citizens and equal in rights and duties. Their allegiance runs to the Government of the United States and to no other.

There is only one distinction, in fact, between a native-born citizen and a naturalized citizen: One of them never owed fealty anywhere else; the other at the time of his naturalization solemnly abjured forever all allegiance to a foreign state.

As one of our former attorneys general cogently remarked: "If this does not work a dissolution of every political tie which bound him to his native country, then our naturalization laws are a bitter mockery and the oath we administer to foreigners is a delusion and a snare."

We believe, and we must believe, that the oath of allegiance is a ritual of deep substance and meaning.

Therefore, there can be no conceivable justification for legislation which deprives naturalized citizens of their rights of nationality solely because of residence abroad.

It is an especially brutal and illogical perversion when, as in section 404 (c), the expatriating residence is in a country with which the citizen never before had connection.

There can be no demonstrable difference between the natural citizen and the naturalized citizen under such circumstances. The attempt to manufacture distinctions must be branded as arbitrary and improper.

It is sometimes contended that the provision I object to, and the nationality lawyers object to, is an indispensable adjunct of American foreign policy.

It is argued that the State Department regards it as vital if we are to protect this Government from embarrassment in its foreign relations.

Neither contention has merit and is disproved by the statements of State Department officials.

As long ago as July 15, 1947, the then Assistant Secretary of State wrote to Senator MYERS, who has introduced a similar bill in the other body, and I quote from the letter:

The experience of the Department has strongly inclined it to the opinion that subsection (c) of section 404 of the Nationality Act does not serve the interests of the United States—

And that in his opinion—
it ought to be repealed.

As recently as March 25, 1950, Mrs. Ruth B. Shipley, the present Chief of the Visa Division of the State Department, in a public address, sharply condemned 404 (c) as inequitable and declared that its presence on the statute books adversely affects operations in her department.

It is my sincere hope, Mr. Speaker, that even in the brief time remaining in this session we can act on this repealer. As you are aware, I have another bill pending which proposes to repeal other subsections of section 404, including (c); but I have separated this one section in the belief that it is the least controversial of the proposals and on its face the most inequitable.

EXTENSION OF REMARKS

Mr. COUDERT asked and was given permission to extend his remarks and include a newspaper article.

Mr. MEYER asked and was given permission to extend his remarks.

Mrs. ROGERS of Massachusetts asked and was given permission to extend her remarks.

Mr. RICH asked and was given permission to extend his remarks and include an article entitled "Government Group Seeks Ruin by Big Business."

Mr. RANKIN asked and was given permission to revise and extend the remarks he expects to make in Committee of the Whole today and include statistics and excerpts from various publications.

Mr. O'BRIEN of Michigan asked and was given permission to extend his remarks and include an article appearing in the Detroit Jewish News.

Mr. THOMPSON (at the request of Mr. FORAND) was given permission to extend his remarks and include an address by Guy C. Jackson, Jr., president of the Water Association of Texas.

Mr. BIEMILLER asked and was given permission to extend his remarks and include an editorial from the Milwaukee Journal.

Mr. TRIMBLE asked and was given permission to extend his remarks and include a report.

Mr. SIKES asked and was given permission to extend his remarks in two instances and include extraneous material.

Mr. HART asked and was given permission to extend his remarks and include an address delivered by Mr. BONNER.

Mr. HARRISON (at the request of Mr. SMITH of Virginia) was given permission to extend his remarks.

Mr. SMITH of Virginia asked and was given permission to extend his remarks and include an address delivered by Secretary of Defense Johnson at the University of Virginia.

Mr. MANSFIELD asked and was given permission to extend his remarks and include several letters and telegrams.

Mr. JUDD asked and was given permission to extend his remarks in five instances and include extraneous matter in each.

Mr. PATMAN asked and was given permission to extend his remarks in three instances and include certain statements and excerpts.

Mr. KEARNS asked and was given permission to extend his remarks and include an address entitled "The Meaning of the New Wage-Hour Rules," which is estimated by the Public Printer to cost \$307.50.

Mr. WOOD asked and was given permission to extend his remarks in two instances; in one to include an address recently delivered by Mr. WHEELER over radio station WSB at Atlanta and in the other a resolution adopted by Post No. 1540 of the Veterans of Foreign Wars of Honolulu, Hawaii, concerning the action of the Committee on Un-American Activities in holding hearings in the Islands recently.

Mr. POTTER asked and was given permission to extend his remarks and include an article from the magazine Coronet.

Mr. PRICE asked and was given permission to extend his remarks in the Appendix of the Record and include a certain resolution.

Mr. DINGELL asked and was given permission to extend his remarks in the Appendix of the Record and include an article entitled, "Fifty Years of Philippine-American Trade," by the distinguished Filipino journalist, Vicente Villimen, which appeared in the anniversary issue of the Manila Bulletin, March 27, notwithstanding the fact that it exceeds the prescribed minimum under the rule in the amount of \$410.

Mr. SMITH of Wisconsin asked and was given permission to extend his remarks in the Appendix of the Record in two instances and include extraneous matter.

Mr. RIVERS asked and was given permission to extend his remarks in the Record and include two articles.

CALL OF THE HOUSE

Mr. WILSON of Indiana. Mr. Speaker, I made the point of order that a quorum is not present.

The SPEAKER. Evidently a quorum is not present.

Mr. COOPER. Mr. Speaker, I move a call of the House.

A call of the House was ordered.

The Clerk called the roll, and the following Members failed to answer to their names:

[Roll No. 142]

Battle	Cavalcante	Douglas
Bennett, Fla.	Cole, N. Y.	Durham
Boykin	Crosser	Engle, Calif.
Breen	Davenport	Fallon
Brehm	Davies, N. Y.	Felghan
Brooks	Deane	Fugate
Buckley, N. Y.	Donohue	Gillmer

Republic. It is part of our civilization. The governmental part, however, needs some repairs.

But the voice of experience which I wish to recall relates to the idea of security for the middle group—say, from 20 to 65 years of age. We have less than 70,000,000 providers in this group, and they must provide for 80,000,000 children, aged, sick, nonproductive Government employees and their wives. It is solely from the energies of this middle group, their inventions and their productivity that can come the support of the young, the old, and the sick—and the Government employees.

Unless there is the constant pressure of competition on this group between 20 and 65 plus the beckoning of fancies and rewards, to stimulate incentives and work, the children and the aged will be the victims. This middle group can find its own security only in a free but tough system of risk and self-reliance. It can be destroyed by taxes and the four mixed drinks.

Experience calls sorrowful confirmation of all this. My recollection is that the Lord remarked to Adam something about sweat.

Be that as it may, there is convincing evidence from the British experience of trying to include the middle group in blessed security. Their incentives to sweat have diminished under that illusion. The needed leadership of the middle group in production and distribution is being destroyed. Otherwise they would not need lean on the new generosity.

There are also some lessons of experience to be had from Russia where the grave is close to the cradle. And 15,000,000 people are compelled to work in slave camps under the whip.

The voice of experience also calls loudly as to organization of the political field. In 1938, I spent some months on the continent inquiring "how come" 15 new democracies created after the First World War had failed.

The downfall of these representative governments was due in part to the drinks compounded by the three ghosts. But there was another step in their arrival at chaos, which contains a potent experience for America.

THE SPLINTER PARTIES

There had grown up in their legislatures a multitude of splinter parties. There were all the way from 5 to 15 of them. In consequence, there was no responsible majority. Governments were driven to improvised legislative coalitions, which could only agree upon negative policies and give-away programs. In each coalition small foreign-controlled tricky groups played a part. In confusion and despair, their peoples welcomed the man on horseback.

Even though old-time religion, it is worth repeating that the preservation of representative government requires two major political parties.

I am not going to deliver a history of the rifts between major parties in the United States. So you may relax. I might mention that once upon a time, say for about 60 years, the members of both our major political parties were, in large majority, liberals in the nineteenth century sense. They quarreled mostly over the tariff but not over ideologies.

However, since Lenin's implication that the hermit crab, by seizing the shell of another animal knew his business, the term "liberal" has lost its soul. Its cheerful spirit of less power in government and more freedom of men has passed to the world beyond.

Nor am I going to try your after-dinner souls with ideological definitions—not even of statism. That definition has already been made instinctively by the common tongue of all nations where free speech still has a part in their proceedings. That effective but perhaps unrefined definition is "right wing" and "left wing."

The point I am concerned with here is that from the ideological tumults stirred by the three shades and their helpers, our major American political parties have been in large degree reoriented into these new compartments of right and left.

I do not charge the real Communists to the American left wing. They are agents of a foreign government.

If a man from the moon, who knew the essentials of representative government, came as a total stranger to the United States, he would say some obvious things within the first week or two.

He would say to the Republican Party: "There is no room for you on the left. You must be the party of the right, or you will split into ineffective factions."

And with equal emphasis he would say to the Democrats: "Your die is cast. You are the party of the left, or you will likewise split into futile factions."

He would say to some members of both parties: "You are not in your proper spiritual homes."

He would say that in all this ideological tumult, if there cannot be a reasonably cohesive body of opinion in each major party, you are on a blind road where there is no authority in the ballot box or in government.

He would say that if you want confirmation look at 15 European countries where representative government was torn to shreds.

EXPERIENCE WITH RUSSIA

I need not remind you that our page 1 international issue is Communist Russia. There are seven phases of this experience which I must recall before I come to a proposal of action.

The first phase of experience with Russia began under the czars. Since Peter the Great they steadily have expanded their reach of empire over the largest land mass in the world. Their method was that of a burglar going down a hall. If there was no one in the first room, he took everything, including the doorknob. If he found someone in the second room who protested, he weighed the strength of the protestor and might leave part of the furniture. If he found an armed man in the third room, he closed the door and waited.

Lenin and Stalin added a new apparatus for the robber. They now make the man in the second room a party member and rob him later, and by degrees. They now put the armed man in the third room asleep with a nonaggression pact or a promise of peace. Thus he neglects his weapons. In any event they steal his secrets.

The second phase of this experience with Russia was a period of 16 years during which four Presidents and seven Secretaries of State opposed our having any relations with this malignant government. Their attitude was that when our neighbors are living a life of spiritual and other disrepute, we do not attack them. But we can hold up standards in the world a little better if we do not invite them into our homes by so-called recognition.

The third historical phase arrived when our left wingers had their way in our relations with Communist Russia. They produced the recognition of the Soviet in 1933. They produced the alliance with Russia in 1941. They produced the appeasement of Russia in western Europe until its reversal by President Truman and Secretary Byrnes in 1945. I will not join in the explanations about China. Up to now there is agreement on only one point. We lost the game—400,000,000 to nothing.

Many of our left wingers were not consciously doing all this. They were just trigger happy to anything new in ideological life.

Let anyone think I am a recent convert in these views, I may cite that just 9 years and 63 days ago I warned the American peo-

ple that collaboration with Stalin to bring freedom to mankind was a gargantuan jest. I used the wrong adjective. I should have said tragic. For as a result, instead of the expansion of liberty, we witness a dozen nations and 600,000,000 human beings enslaved.

The fourth phase of this experience was that Soviet Russia has in the last 12 years violated more than 35 solemnly signed agreements.

The fifth phase of this experience has been with the Communists in the United Nations. That Charter for which we hoped so much contains lengthy pledges to the independence of nations, to human liberty, and to nonaggression. About a dozen provisions of that Charter have been violated either in spirit or in letter by Soviet Russia. The Kremlin has reduced the United Nations to a propaganda forum for the smearing of free peoples. It has been defeated as a preservative of peace and good will.

NOW THE COLD WAR

The sixth phase of this experience is that we now find ourselves in an expensive and dangerous cold war. We conduct the battle with subsidies to beguile peoples to rectitude from internal communism. A year ago we made the Atlantic Military Pact. The expressed hope was that, although there was no commitment to go to war, these nations would build up their own arms to adequately defend their own rooms. In persistence to an old habit, we are taking up the check.

In the meantime, we learn that our first defense—the atomic bomb—has been stolen from us.

The final phase of our experience with Russia is the belated realization that this is not one world but two worlds. The one-world idea seems to be lost in the secret files.

One world is militaristic, imperialistic, atheistic, and without compassion. The other world still holds to belief in God, free nations, human dignity, and peace.

Now to come to the point of all this. The American people ought to take a cold and objective look at this experience before we go any further.

This look should be directed to the fact that more and more the burdens of defending free men and nations are being thrust upon the American people, who are only one-sixth the population of the globe. We are becoming more and more isolated as the sole contender in this cold war. We are steadily losing ground because the non-Communist states are being picked off one by one or are compromising with the Communists. Our countrymen are in a fog as to what, where, and when all this leads to.

What the world needs today is a definite, concrete mobilization of the nations who believe in God against this tide of Red agnosticism. It needs a moral mobilization against the hideous ideas of the police state and human slavery. The world needs mobilization against this creeping Red imperialism. The United States needs to know who are with us in the cold war against these practices and whom we can depend on.

Therefore, I have a proposal to make.

I suggest that the United Nations should be reorganized without the Communist nations in it. If that is impractical, then a definite New United Front should be organized of those peoples who disavow communism, who stand for morals and religion, and who love freedom.

This is specifically not a proposed extension of a military alliance or any color of it. It is a proposal based solely upon moral, spiritual, and defense foundations. It is a proposal to redeem the concept of the United Nations to the high purpose for which it was created. It is a proposal for moral and spiritual cooperation of God-fearing free nations.

If the free nations join together, they have many potent moral, spiritual, and even economic weapons at their disposal. They would unlikely ever need such weapons. Such a phalanx of free nations could come far nearer to making a workable relation with the other half of the two worlds than the United States can ever do alone.

By collective action we could much more effectively keep their conspiring agents and bribers out of all our borders and out of our laboratories.

It may be the non-Communist world is not willing to take such a vital stand. At least it would clarify what we have to do.

The test I propose is the logical and practical method of total diplomacy. It would make diplomacy dynamic and lessen the dangers of the American people. All this may give pain to some people. But by their cries ye shall know them.

My friends, I am not disheartened by all this recall of disturbing experience. We must retain our faith in western civilization. In support of that faith we are perhaps a slow but a resolute and intelligent people. We have the greatest organ of education known to man—a free press. You can dissolve much of our confusions and frustrations.

And in rejecting an atheistic other world, I am confident that the Almighty is with us.

VETERANS' ADMINISTRATION DENTAL ACTIVITIES

Mr. KNOWLAND. Mr. President, I ask unanimous consent that there be printed in the body of the RECORD a letter which I have received from the Veterans' Administration regarding dental activities of that Administration.

There being no objection, the letter was ordered to be printed in the RECORD, as follows:

VETERANS' ADMINISTRATION,
Washington, D. C., April 18, 1950.
HON. WILLIAM F. KNOWLAND,
United States Senate,
Washington, D. C.

DEAR SENATOR KNOWLAND: Your letter of April 4 concerning the costs of certain Veterans' Administration dental activities is very much appreciated. It is regretted that this reply has been delayed until a decision could be reached as to the number of dentists it would be necessary to release.

As you perhaps have been informed, the proposed reduction in force of dentists has been temporarily extended, and we have hopes that it will not be necessary to reschedule it. However, should a similar occasion arise, the information you requested is contained in subsequent paragraphs.

As of February 28, 1950, there were 1,070 full-time employees in the dental units of the Medical Division of regional offices in the following categories:

Dentists.....	520
Dental assistants.....	314
Dental hygienists.....	8
Dental mechanics.....	109
X-ray technicians.....	1
Clerical.....	118
Total.....	1,070

During the month of February these employees completed 26,205 examination cases, 7,178 treatment cases, along with the professional work involved in the authorization of examination and treatment cases to participating dentists.

The proposed cut of approximately 175 employees represented a 16-percent reduction in staff personnel. By applying this percentage to the monthly production in examination and treatment cases, it can be determined that approximately 4,193 examination cases and 1,148 treatment cases would have had to be referred to participating dentists if the 175 employees had not been

available. At \$13.38 per examination case and \$83.81 per treatment case, the bill for these services would have exceeded \$150,000 for the month of February, and at the February rate, would amount to approximately \$1,800,000 during a complete fiscal year.

It would be difficult to compute the exact amount of savings to the Veterans' Administration which would accrue by retaining these employees on a staff basis, but it is believed that the figure would be substantial. The average annual salary of employees in the medical division of regional offices was approximately \$4,100 at the January rate. This division performs medical and dental out-patient activities. Assuming that the 175 dental employees previously scheduled for reduction in force were of the average salary group, their monthly salary would amount to approximately \$60,000 and their annual salary to approximately \$720,000. In order to compare these costs with the \$1,800,000 cost of performing this work with participating dentists, it would be necessary to add to the staff salaries the costs of facilities, equipment, and supplies. However, in this instance, the facilities are already in operation, the equipment has already been installed, and the cost of supplies would be considerably less than the cost of salaries as computed at \$720,000 per year at the January rate. Thus, it appears that it is to the advantage of the Veterans' Administration to avoid a reduction in force of employees in this category.

Your interest in this matter is very much appreciated.

Sincerely yours,

PAUL B. MAGNUSON,
Chief Medical Director.

COMMUNISTS IN HAWAII—EDITORIAL FROM THE HONOLULU ADVERTISER

Mr. BUTLER. Mr. President, I ask unanimous consent to have printed in the body of the RECORD a very short editorial entitled "Communists' Numbers Unimportant," from the Honolulu Advertiser of April 23, 1950.

There being no objection, the editorial was ordered to be printed in the RECORD, as follows:

COMMUNISTS' NUMBERS UNIMPORTANT

Harping on the small number of Communists witnesses at the recent Un-American Activities Committee hearing were able to say reside in Hawaii is misleading. The Communist cell system prevents one group of party members from knowing the number or the identity of their comrades in sedition. What is important is that the Communists and their fellow travelers here had sufficient strength to seize and hold the Democratic Party machinery.

Whether there are 130 Communists in Hawaii or 1,300 has little significance. Some estimates place the total number of Communist card holders in the whole United States at only 200,000. Post-war investigations have shown that Hitler controlled Germany with a handful of Nazis. Mussolini dominated Italy with a small group of Fascists.

In subversive treachery it is what is done, not how many persons do it, that tells the story. Even one Communist in Hawaii who can deceive innocent Americans into disloyalty is one too many.

NATIONAL SCIENCE FOUNDATION—CONFERENCE REPORT

The VICE PRESIDENT. If there are no further routine matters to be presented, the Chair recognizes the Senator from Utah [Mr. THOMAS].

Mr. THOMAS of Utah. Mr. President, I submit a conference report on Senate bill 247, to promote the prog-

ress of science, and so forth, and I ask unanimous consent for its immediate consideration.

The VICE PRESIDENT. The report will be read for the information of the Senate.

The legislative clerk read the report. (For conference report, see pp. 5828-5831 of House proceedings of April 26, 1950.)

The VICE PRESIDENT. Is there objection to the present consideration of the conference report?

There being no objection, the Senate proceeded to consider the report.

Mr. THOMAS of Utah. Mr. President, the Senate, of course, is very familiar with the Science Foundation bill. Such a bill has been passed three times by the Senate. The subject has been before us for consideration for almost 10 years. The bill is in reality the outgrowth of our experience in the war, when we were brought to realize that there had not been assembled into one group those persons who were thoughtful about scientific development. During the war the Government set up various boards, and of course scientific contributions to the war were immense.

Mr. President, under the Science Foundation Act of 1950, the Foundation will come into being as an independent agency. A board of 24 members will be established. These members will be appointed by the President of the United States after recommendations or suggestions have been made to him by the great scientific groups of the country respecting such membership. After the board has been appointed the powers and functions of the Foundation will rest in the board. The board itself will make recommendations, or, rather, suggestions, respecting the appointment of the director. The President, of course, is free to act in that respect, however, under his constitutional powers. So after the board has been organized the President will name and the Senate will confirm a director. Thereafter the powers and functions of the Foundation will rest in a board of 24 members and a director.

Mr. President, I do not wish to detain the Senate by going over the details of the bill, unless there is some question; but I wish to say that after many days of meeting in conference, the conferees have worked out what I consider to be a stronger bill on this subject than has ever been presented before, a better bill than even the House version of the bill or the Senate version of the bill was. There is unanimous agreement on the part of all the conferees, both the conferees on the part of the House and the conferees on the part of the Senate. All the conferees have signed the report.

The House acted upon the conference report yesterday, at that time unanimously agreeing to accept it.

Mr. TAFT. Mr. President, I was on the conference committee on this bill. I wish to review briefly the history of the bill, as a matter of information for the Senate, and to make it perfectly clear that this is an example of bipartisan policy probably not equaled in the history of the last two or three Congresses.

This bill arose in the first place out of a recommendation by Dr. Vannevar Bush, Director of the Office of Scientific Research and Development, during the war, whose work I think received almost unanimous approval as the very best form of scientific organization to give the services of science to the Government during the war. His report in July 1945, recommended the creation of a permanent national science research foundation.

A bill on that subject was introduced by the Senator from Washington [Mr. MAGNUSON] and the Senator from West Virginia [Mr. KILGORE], I believe, in the Seventy-ninth Congress. That bill passed the Senate in that Congress.

However, I have before me an editorial from the Washington Post at the time when the Seventy-ninth Congress expired. The editorial states, in part, that—

Failure to establish a National Science Foundation must be ranked high among the grievous sins of omission of the Seventy-ninth Congress. Guilt rests, in this case, exclusively with the House of Representatives.

Mr. President, as soon as the Eightieth Congress met, bills to establish a National Science Foundation were introduced.

Senate bill 526 was introduced on February 7, 1947, by the Senator from New Jersey [Mr. SMITH], who has taken an active interest in this bill throughout, although he is unable to be here today by reason of illness. The bill was introduced at that time by the Senator from New Jersey for himself, the Senator from Oregon, Mr. Cordon; the then Senator Revercomb, of West Virginia; the Senator from Massachusetts, Mr. Saltonstall; the Senator from Utah, Mr. Thomas; the Senator from Washington, Mr. Magnuson; and the Senator from Arkansas, Mr. Fulbright. That bill passed the Senate in 1947. It passed the House in 1947, and went to the President at the end of that session. The President pocket-vetoed the bill. He vetoed it in connection with a veto message, which I now submit and ask unanimous consent to have printed at this point in the RECORD as a part of my remarks.

There being no objection, the veto message was ordered to be printed in the RECORD, as follows:

AUGUST 6, 1947.

MEMORANDUM OF DISAPPROVAL

I am withholding my approval of S. 526, the National Science Foundation bill.

I take this action with deep regret. On several occasions I have urged the Congress to enact legislation to establish a National Science Foundation. Our national security and welfare require that we give direct support to basic scientific research and take steps to increase the number of trained scientists. I had hoped earnestly that the Congress would enact a bill to establish a suitable agency to stimulate and correlate the activities of the Government directed toward these ends.

However, this bill contains provisions which represent such a marked departure from sound principles for the administration of public affairs that I cannot give it my approval. It would, in effect, vest the determination of vital national policies, the expenditure of large public funds, and the administration of important governmental functions in a group of individuals who would

be essentially private citizens. The proposed National Science Foundation would be divorced from control by the people to an extent that implies a distinct lack of faith in democratic processes.

Moreover, the organization prescribed in the bill is so complex and unwieldy that there is grave danger that it would impede rather than promote the Government's efforts to encourage scientific research. The Government's expenditures for scientific research and development activities currently amount to hundreds of millions of dollars a year. Under present world conditions, this work is vital to our national welfare and security. We cannot afford to jeopardize it by imposing upon it an organization so likely to prove unworkable.

Under S. 526 the powers of the proposed Foundation would be vested in 24 members, appointed by the President by and with the advice and consent of the Senate. These members would be part-time officials, required to meet only once each year. This group would, in turn, select biennially from among its 24 members an executive committee of 9 members and would exercise its powers through the executive committee. This nine-member executive committee would also be a part-time body required to meet only six times a year.

The Foundation would have a chief executive officer, known as the Director. He would be appointed by the 9-member executive committee unless the 24-member body itself chose to appoint him. The power and duties of the Director would be prescribed by the executive committee and exercised under its supervision.

There would be within the Foundation a number of divisions, each exercising such duties and performing such functions as the Foundation prescribed. There would be no limit upon the number of divisions which the Foundation could establish. For each division there would be a divisional committee. In the case of the Committee for the Division of National Defense, there would be a limit of 36 members, half of whom would be appointed by the Foundation and half of whom would be representatives of the armed services. In other cases, there would be no limit upon the number of members of each divisional committee and all of the members would be appointed by the Foundation. Not only would these part-time committees furnish advice and make recommendations concerning the Government's scientific research program, but each divisional committee would also exercise and perform the powers and duties of its division.

The Foundation would also be empowered to appoint commissions in various fields of research. Three such commissions are specified in the bill, and the Foundation could appoint as many additional special commissions as it saw fit. Each such commission would consist of six eminent scientists and five members from the general public. After making a survey of public and private research already being carried on, each of these commissions would recommend a research program within its field and constantly review the manner in which such program was being carried out.

Apart from the conflicts and confusion which would result from this complex organization, the bill would violate basic principles which make for responsible government.

The Constitution places upon the President the responsibility for seeing that the laws are faithfully executed. In the administration of this law, however, he would be deprived of effective means for discharging his constitutional responsibility.

Full governmental authority and responsibility would be placed in 24 part-time officers, whom the President could not effectively hold responsible for proper administration. Neither could the Director be held

responsible by the President, for he would be the appointee of the Foundation and would be insulated from the President by two layers of part-time boards. In the case of the divisions and special commissions, the lack of accountability would be even more aggravated.

The members of the Foundation would also be authorized to appoint the full-time administrative head of an important agency in the executive branch of the Government, as well as more than 70 additional part-time officials in whom important governmental powers would be vested. This represents a substantial denial of the President's appointing power, as well as an impairment of his ability to see that the laws are faithfully executed.

The ability of the President to meet his constitutional responsibility would be further impaired by the provisions of the bill which would establish an Interdepartmental Committee on Science. The members of this committee would be representatives of departments and agencies who are responsible to the President, but its chairman would be the Director of the Foundation. It would be the duty of this committee to correlate data on all Federal scientific research activities and to make recommendations to the President, to the Foundation, and to the other departments and agencies of the Government concerning the performance of their functions in this field. Thus, an officer who is not appointed by the President, and not responsible to him, would be the man primarily charged with the performance of functions which are peculiarly within the scope of the President's duties—that is, the coordination of the work of executive agencies. This is especially unwise when the activities concerned are so intimately related to the national welfare and security.

There are other compelling reasons why control over the administration of this law should not be vested in the part-time members of the Foundation. The Foundation would make grants of Federal funds to support scientific research. The recipients of these grants would be determined in the discretion of the Foundation. The qualifications prescribed in the bill for members of the Foundation would insure that most of them would be individuals employed by institutions or organizations eligible for the grade. Thus, there is created a conflict of interests which would inevitably give rise to suspicions of favoritism, regardless of the complete integrity of the members of the Foundation.

It is unfair to individuals asked to accept public office that they should be put in such a vulnerable position. Moreover, colleges and universities and other organizations seeking aid for scientific research deserve the assurance that the manner and extent of their participation in a national program will be determined on a completely impartial and objective basis.

Adherence to the principle that responsibility for the administration of the law should be vested in full-time officers who can be held accountable will not prevent the Government from utilizing with great advantage the services of eminent scientists who are available only for part-time duty. We have ample evidence of the patriotic and unselfish contributions which such citizens can make to the success of governmental programs. The role to be played by such part-time participation, however, is more appropriately one of an advisory nature rather than of full responsibility. In other governmental programs of vast national importance, this method is used to obtain advice and recommendations from impartial experts as well as from parties in interest. There is no reason why such a system cannot be incorporated in legislation establishing a National Science Foundation.

For the reasons I have indicated, I believe that this bill raises basic issues of public policy. There would be no means for insuring responsible administration of the law. If the principles of this bill were extended throughout the Government, the result would be utter chaos. There is no justification in this case for not using sound principles for normal governmental operations. I cannot agree that our traditional, democratic form of government is incapable of properly administering a program for encouraging scientific research and education.

It is unfortunate that this legislation cannot be approved in its present form. The withholding of my signature at this time, however, will not prevent the Government from engaging in the support of scientific research. Research activities are carried on extensively by various executive agencies under existing laws, and would continue to be carried on whether or not this bill became law. The only funds made available by the Congress for expenditure by the Foundation are funds which might be transferred from other agencies, thereby reducing the amounts which those other agencies could spend for similar purposes. No funds were made available for the scholarships and fellowships authorized in the bill. Thus, there would be no immediate gains which would justify accepting the risks involved in the approval of this legislation.

I am convinced that the long-range interests of scientific research and education will be best served by continuing our efforts to obtain a Science Foundation free from the vital defects of this bill. These defects in the structure of the proposed Foundation are so fundamental that it would not be practicable to permit its establishment in this form with the hope that the defects might be corrected at a later date. We must start with a law which is basically sound.

I hope that the Congress will reconsider this question and enact such a law early in its next session.

HARRY S. TRUMAN.

THE WHITE HOUSE, August 6, 1947.

Mr. TAFT. Mr. President, the President of the United States vetoed the bill largely because of the fact that in the bill the board of 24, to be set up, was given power to appoint the director of the Foundation, and because the board had power to distribute the grants among the various colleges and other foundations which were to conduct the actual scientific work. No effort was made at the time to pass the bill over the veto of the President, although efforts were made to compromise with him on his objections to the bill and to find out exactly what might be satisfactory.

The pending bill was introduced by the Senator from Utah [Mr. THOMAS], I think, in behalf of himself and other Senators, on January 6, 1949. It passed the Senate on March 18, 1949. It passed the House of Representatives on March 1, 1950. The matters objected to by the President were compromised. The director is to be appointed by the President, but he is to be subject to the direction of the board. I, myself, felt very strongly that it was a great mistake for the President to veto the bill or to give power to a director to distribute millions of dollars between different private institutions. I felt confident that a director subject to appointment by the President would be subject to all kinds of political pressure from various Senators and Representatives, and that the distribution would be made on a political basis.

This bill, as I have said, permits the President to appoint the director; but all distribution of money—contrary to the principles set forth in the President's veto message—is under the control of the board of 24 members. They cannot even delegate the final action on that question to the executive committee of nine. So the 14 scientists finally will pass on all grants to colleges, other institutions of all kinds, and research organizations throughout the entire United States.

I trust very much that the President will sign the bill.

However, I wish to make it clear that the bill originated in Congress. It is literally a product of bipartisan work. Both Democrats and Republicans have worked on it in three Congresses, and I think the result which has come out should be satisfactory to everyone.

I think it is highly to the credit of the Senate of the United States, because the Senate originated the bill in all cases—the Senate of the Seventy-ninth Congress, the Senate of the Eightieth Congress, and now the Senate of the Eighty-first Congress.

Mr. SALTONSTALL. Mr. President, will the Senator yield?

Mr. TAFT. I yield.

Mr. SALTONSTALL. As one who has been very much interested in this bill over the past 4 years, I wish to ask whether the authorization made by the bill is \$15,000,000.

Mr. TAFT. I think there is no limit.

Mr. THOMAS of Utah. Mr. President, if I may reply, let me say that the Senate version of the bill had no authorization limit. However, the House version of the bill provided an authorization of half a million dollars for the first year and \$15,000,000 for the years thereafter. The Senate conferees have accepted the House provision.

Mr. SALTONSTALL. So the authorization for the Science Foundation is to be \$15,000,000, unless it is amended by future legislation. Is that correct?

Mr. THOMAS of Utah. Yes; after the first year.

Mr. TAFT. It is \$15,000,000, but of course the \$15,000,000 is the limit on direct appropriations to the National Science Foundation. However, we are now appropriating hundreds of millions of dollars for research. In the armed forces bill, I think, provision is made for—

Mr. SALTONSTALL. For \$5,000,000 or \$6,000,000, I believe.

Mr. TAFT. The Senator from Massachusetts says he understands that research funds of \$5,000,000 or \$6,000,000 are provided in that bill. It is suggested that in connection with the distribution of that fund for actual research by others it will to a considerable extent be turned over by the Department of Defense to the National Scientific Foundation. So, actually, the funds at its disposal may be much greater than \$15,000,000, without any amendment to this bill.

Mr. SALTONSTALL. I thank the Senator. Let me very briefly add my congratulations to the conference committee. I am not a member of that com-

mittee; but, as the Senator from Utah and the Senator from Ohio know, I worked many hours on this bill, and I am very pleased to see it go through.

Mr. THOMAS of Utah. Mr. President, I should like to say a further word or two. First, I ask unanimous consent that a statement which I have prepared on the bill be printed at this point in the RECORD.

There being no objection, the statement was ordered to be printed in the RECORD, as follows:

STATEMENT BY SENATOR THOMAS OF UTAH

Mr. President, I have moved that the Senate temporarily lay aside the pending business and proceed immediately to the consideration of the conference report on S. 247, the National Science Foundation bill.

Mr. President, as is well known by the Members of this body, this problem has been continually before the Congress for a period of 10 years. During the Eightieth Congress both Houses approved a National Science Foundation bill which was vetoed by the President. After a series of conferences between the executive branch and representatives of the Congress, a revised bill was passed in the last session of the Eightieth Congress but the Congress adjourned before final action was taken by the House of Representatives.

During the first session of the Eighty-first Congress the Senate approved a National Science Foundation bill by unanimous consent. This bill, with some modifications, was approved by the House of Representatives on March 1, 1950. The Senate disagreed to the House amendments and requested a conference.

Mr. President, the report which I submit has the unanimous approval of the conferees of the two Houses and represents, in my opinion at least, a bill which is superior to both the House and Senate versions. Your conferees have given careful study to this matter and the result of their efforts is worthy of the approval of the full Congress. The House of Representatives adopted this conference report yesterday and I now present it to the Senate for final approval.

FOUNDATION AND BOARD

The conference report embodies the language designating the Foundation as the institution created by this act and designating as the Board the 24 members who are primarily responsible for the administration of the act. This change was made in order to differentiate clearly between the Foundation in the institutional sense and the individuals responsibility for carrying out the purposes for which the Foundation is created.

DIRECTOR

The bill as agreed upon by the conferees provides that the Director shall be appointed by and with the advice and consent of the Senate after the Board has had an opportunity to make recommendations to the President. The Senate bill required that the Director could not be appointed until the Board had been appointed and qualified. It was pointed out in conference that in view of the fact that the Board members are required to be confirmed by the Senate, unnecessary and serious delay might result if only 1 or 2 of the 24 nominations to the Board were held up, for any reason, by the Senate. The provisions agreed upon in conference make it clear that the Board shall be given every opportunity to present recommendations on the appointment of the Director to the President.

Another provision agreed upon by the conferees provides that the Director shall carry out the policies established by the Board, but that he may not take any final action with respect to the granting of scholarships and graduate fellowships or the entering into

of contracts or other arrangements for the conducting of basic research until the Board shall have reviewed and approved the proposed action in each instance. This provision is designed to assure the final responsibility of the Board in these two important areas of the Foundation's activities.

EXECUTIVE COMMITTEE

The bill as passed by the Senate permitted, but did not require, the establishment of an executive committee. The bill as passed by the House required the establishment of an executive committee and set forth in some detail the procedure to be followed in the establishment of such a committee.

The bill agreed upon by the conferees retains the permissive provisions of the Senate bill, but further provides that in the event such an executive committee is created, it shall be created only in accordance with the standards provided in the bill. These standards are set forth in order to make sure that the primary purposes of the act, particularly those concerned with the widest possible distribution of research, shall not be subverted.

Since the Board is required to meet only once a year, it is quite likely that some such committee will, of necessity, be established. Since that is so, the conferees agreed that that committee should be surrounded with proper safeguards.

In the event that an executive committee is created the Board may not assign to that committee the function of establishing policies or the function of review and approval to be exercised by the Board in accordance with section 5 (b). The Board may, however, assign to the executive committee the review and approval of minor modifications of contracts or other arrangements previously approved by the Board.

OTHER COMMITTEES

The bill agreed upon by the conferees empowers the Foundation to create other committees composed either of members or non-members of the Foundation. These committees, however, are limited to performing only such survey and advisory functions as the Board shall designate.

DEFENSE RESEARCH

The bill as agreed upon by the conferees provides that the Secretary of Defense may call upon the Foundation to conduct specific research activities in connection with matters relating to the national defense. The conferees agreed that such a provision was desirable in order that whenever the need presented itself, maximum effort could be centered on any scientific research necessary to the national defense.

PROTECTION OF CERTAIN ESTABLISHED RESEARCH PROGRAMS

The bill as passed by the Senate provided that the activities of the Foundation shall be construed as supplementing but not curtailing or limiting any of the functions or activities presently being carried on by Government agencies. This provision was stricken from the House bill.

The conferees were agreed that the Senate language was so restrictive that it might result in depriving the Foundation of effecting any coordination of research presently being conducted. The conferees were likewise agreed that certain of the established research activities, particularly those being carried on by the National Institutes of Health in the United States Public Health Service, should not be interfered with. The position of the conferees on this point is made clear on the last page of the conference report.

PATENT RIGHTS

The bill as agreed upon by the conferees follows completely the theory of the Senate

bill. Two clarifying changes have been made in the text in order to more clearly set forth the intent of the Congress in this regard. The Senate bill provided that nothing in the act shall be construed to authorize the Foundation to alter or modify any provision of law affecting the issuance and use of patents. Since it is obvious that no agency other than Congress has the authority to alter or modify existing law, the language has been amended to read that the Foundation may not enter into any contract or other arrangement inconsistent with existing law.

APPROPRIATIONS

The bill as agreed to by the conferees provides that not more than \$500,000 may be appropriated to the Foundation for the fiscal year ending June 30, 1951, and that not more than \$15,000,000 may be appropriated to the Foundation for any fiscal year thereafter. The Senate bill contained no such limitations.

The conferees were agreed that at least in the early years the Foundation could not effectively expend great sums of money and that most of its efforts must be concentrated toward establishing a solid and effective basis upon which to carry forth its activities. It is highly unlikely that the Foundation will be in a position to effectively spend more than the amounts stipulated in the bill, when it is remembered that other agencies of the Government may transfer funds to the Foundation to permit that agency to carry on certain research activities.

SECURITY PROVISIONS

The bill as passed by the Senate provided that the Foundation must obtain the concurrence of the Atomic Energy Commission in conducting any research in the field of atomic energy. The Senate bill also provided that regulations and procedures for the security classification of information or property having military significance should be established in conjunction with the Secretary of Defense in order to properly safeguard the national security.

The House bill, in addition to the above provisions, contained extensive amendments dealing with the investigation of individuals employed by the Foundation or awarded scholarships by the Foundation and relating to foreign nationals who might become associated with the Foundation.

The provisions contained in the House bill were rather severely criticized by educators and other groups, as well as by the agencies who would be charged with conducting the investigations required by the House bill.

The conferees rewrote the security provisions of the bill in a manner which the conferees feel properly safeguard the national security, without impeding the untrammelled development of basic research. The provisions approved by the conference have been endorsed by the Federal Bureau of Investigation, the Atomic Energy Commission, and the Department of Defense.

The security provisions approved by the conferees can be summarized as follows:

1. Where any activity involves restricted data as defined by the Atomic Energy Act of 1946, the provision of that act regarding the control of the departmentation of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable.

2. In the case of scientific research activities relating to national defense, security requirements and safeguards shall be established by the Secretary of Defense.

3. No employee of the Foundation shall be permitted to have access to information or property with respect to which restrictions have been established until the Federal Bureau of Investigation shall have made an investigation of the character, association, and loyalty of such individual and reported

its findings to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the national security.

4. Before any funds can be paid by the Foundation under a scholarship or fellowship, the individual must subscribe to the following oath or affirmation:

"I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic."

It is believed by the conferees that the provisions contained in the bill finally agreed upon effectively protect the national security, without departing from established security procedures, without burdening the investigating agencies of the Government with additional responsibilities of questionable merit. The provisions also avoid subjecting those actively engaged in scientific pursuits to needless investigations and controls.

Mr. THOMAS of Utah. Next, Mr. President, let me say that before the conference report is agreed to a statement should be made regarding the security provisions of the measure. We have worked out what I think is a most sensible provision, which will provide security in every way in which such matters are secure now under regulations and under the laws of the United States, so far as all persons who may be working on a defense project or on an atomic-energy project, or something of that kind, are concerned. The country's welfare is well taken care of. But the average scientist, who is a scholar and works in all sorts of fields, will not be bound except by this one single provision, and we thought anyone who took employment in the United States, even as a scientific scholar or as a fellow, should be held by the same sort of oath or affirmation which we all take and which all persons who serve the country take, so that in the beginning of his work he will swear allegiance to the United States.

The VICE PRESIDENT. The question is on agreeing to the conference report.

Mr. TAFT. Mr. President, I should like to say that we agreed with the House upon a conference report as well as upon the statement as submitted by the House managers. That is true; is it not?

Mr. THOMAS of Utah. We agreed to accept the statement made by the House managers to the House of Representatives, and it is incorporated in our report.

Mr. TAFT. Will it be printed in the RECORD, without a special request?

Mr. THOMAS of Utah. I ask unanimous consent that the statement be printed in the RECORD.

The VICE PRESIDENT. Without objection, the statement to which the Senator refers will be printed in the RECORD.

The statement of the managers on the part of the House is as follows:

STATEMENT

The managers on the part of the House at the conference on the disagreeing votes of the two Houses on the amendment of the House to the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes, submit the

following statement in explanation of the effect of the action agreed upon by the conferees and recommended in the accompanying conference report:

The House amendment was passed in lieu of all of the Senate bill after the enacting clause. The accompanying conference report recommends the adoption of a substitute for both the Senate bill and the House amendment.

The substitute agreed to in conference follows in general the pattern of the House amendment, including the organizational structure providing for a Foundation consisting of a Board and a Director.

The differences between the House amendment and the conference substitute are explained below, except for minor clerical, clarifying, and conforming changes.

FOUNDATION'S REPORT TO PRESIDENT AND CONGRESS

By section 3 (c) of the conference substitute the Foundation is required to make an annual report to the President for submission to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. This subsection is the same as it appeared in the House amendment, except that there is included a requirement that the Foundation's report shall contain the minority views and recommendations, if any, of members of the Board.

DIRECTOR OF THE FOUNDATION

Section 5 of the House amendment contained the following sentence: "There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate, after receiving recommendations from the Board." In this sentence, the words "after receiving recommendations from the Board" replaced the words "after the members of the Foundation have been appointed and qualified" which were contained in the same sentence in the Senate bill. In lieu of this sentence the conference substitute contains the following two sentences: "There shall be a Director of the Foundation who shall be appointed by the President by and with the advice and consent of the Senate. The Board may make recommendations to the President with respect to the appointment of the Director, and the Director shall not be appointed until the Board has had an opportunity to make such recommendations."

Section 5 (b) of the conference substitute, relating to the powers and duties of the Director, is the same provision contained in the House amendment except that it has been modified to make it clear that in each instance where the Director takes any final action under section 10 or 11 (c) the Board must review and specifically approve the action proposed to be taken. It is the view of the conference committee that this requirement makes more certain than otherwise might be the case that, in conformity with section 3 (b), contracts or other arrangements made under section 11 (c) for carrying on basic scientific research activities will not be unduly concentrated in a few organizations or institutions or in a limited area of the Nation.

POWERS TO CREATE AN EXECUTIVE COMMITTEE AND OTHER COMMITTEES

The Senate bill, in section 4 (e), authorized the Foundation to appoint an Executive Committee from among its members, and to appoint from among its members or otherwise such other committees as it deemed necessary, and to assign to such Executive Committee or other committees such powers and functions as it deemed appropriate for the purposes of the act.

The House amendment, in section 6, created an Executive Committee and provided that, in addition to the powers and duties

specifically vested in it by the act, the Executive Committee "shall exercise such powers and duties as may be delegated to it by the Board." The House amendment granted no authority, similar to that granted by the Senate bill, for the creation of other committees. Section 6 of the House amendment also contained specific provisions as to the membership of the Executive Committee, the term of office of members, a requirement that members should be representative of diverse interests and should be chosen so as to provide representation so far as practicable for all areas of the Nation, and contained a provision as to the making by the Executive Committee of an annual report by the Board.

Section 6 of the conference substitute combines the Senate and House provisions above referred to as follows:

(1) It grants to the Board the authority to create an Executive Committee and to assign to the Executive Committee such powers and functions as may be deemed appropriate, except that it is provided that the Board may not assign to the Executive Committee the function of establishing policies, or the function of review and approval (except review and approval of minor modifications of contracts or other arrangements previously approved by the Board), to be exercised by the Board in accordance with section 5 (b).

(2) The section further provides that if an Executive Committee is established by the Board it shall consist of nine members of the Board elected by the Board, and of the Director as a nonvoting ex officio member, and it contains provisions, similar in general to those contained in the House amendment, as in terms of office, representation of diverse interests, and the making of an annual report to the Board.

(3) It authorizes the Board to appoint from among its members or otherwise such committees as the Board deems necessary, and authorizes the Board to assign to such committees such survey and advisory functions as the Board deems appropriate.

CONTRACTS OR ARRANGEMENTS FOR RESEARCH RELATING TO THE NATIONAL DEFENSE

In both the Senate bill and the House amendment (sec. 4 (a) (3) of the Senate bill and sec. 3 (a) (3) of the House amendment) the Foundation was authorized and directed, after consultation with the Secretary of Defense, to initiate and support scientific research in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research. Section 10 (c) of the Senate bill authorized the Foundation to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deemed necessary to carry out the purposes of the act. In this section no reference was made to contracts or arrangements for scientific research in connection with matters relating to the national defense. Section 11 (c) of the House amendment contained an authorization similar to that contained in section 10 (c) of the Senate bill, but also authorized the Foundation to enter into contracts or other arrangements, with the approval of the Secretary of Defense, for the carrying on of scientific research activities in connection with matters relating to the national defense.

Both sections 10 (c) of the Senate bill and section 11 (c) of the House amendment authorized the Foundation to enter into contracts or other arrangements or modifications thereof, without legal consideration, without performance or other bonds, and

without regard to section 3709 of the Revised Statutes.

In the conference substitute section 3 (a) (3) is a modification of section 4 (a) (3) of the Senate bill and section 3 (a) (3) of the House amendment, and reads as follows:

"Sec. 3. (a) The Foundation is authorized and directed—

"(3) at the request of the Secretary of Defense, to initiate and support specific scientific research activities in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;"

Section 11 (c) of the conference substitute is a modification of section 10 (c) of the Senate bill and section 11 (c) of the House amendment, and reads as follows:

"Sec. 11. The Foundation shall have the authority—

"(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other Government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this act, and, at the request of the Secretary of Defense, specific scientific research activities in connection with matters relating to the national defense and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes."

The fact that under the conference substitute the Foundation is authorized, at the request of the Secretary of Defense, to engage in specific scientific research activities relating to the national defense (research which may be basic or applied in character) does not place a limitation on the authority of the Foundation to engage in basic scientific research.

SECURITY PROVISIONS

In the conference substitute the provisions with respect to security safeguards have been brought together in section 15.

This section has been given very full and careful consideration, in consultation with representatives of the Department of Justice, the Atomic Energy Commission, and the Department of Defense.

The objective of the conferees has been to provide for full and adequate security safeguards, while at the same time meeting certain points raised by the Department of Justice and the Secretary of Defense with respect to two provisions contained in the House amendment. It is believed that this objective has been successfully accomplished.

The following explanation of section 15 points out how it differs from the security provisions contained in the Senate bill and the House amendment.

Subsection (a): This subsection, relating to research in the field of nuclear energy, is identical with subsection 14 (k) of the Senate bill and subsection 14 (j) of the House amendment, except that a new sentence, shown in italic type in the subsection as reproduced below, has been added:

"(a) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. *To the extent that such activity involves restricted data as defined in the Atomic*

Energy Act of 1946 the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable. Nothing in this act shall supersede or modify any provision of the Atomic Energy Act of 1946."

The committee of conference is satisfied that this subsection is entirely adequate to give full security protection in connection with any activity of the Foundation in the field of nuclear energy involving restricted data. The provisions of the Atomic Energy Act of 1946 (including penalties) will be fully applicable with respect to any such activity and to those individuals who are engaged in it. With respect to this subsection, Acting Chairman Sumner T. Pike, of the Atomic Energy Commission, in a letter dated April 12, 1950, addressed to the chairman of the committee of conference, made the following statement with particular reference to the new sentence which has been included in this subsection:

"It is the purpose of this language to make explicit that which is implicit in section 14 (j) as presently drafted with particular emphasis placed on those security provisions of the Atomic Energy Act of 1946 which would be applicable to certain activities of the Foundation in the field of nuclear energy. The effect of this section together with the suggested additional language is to make it clear that all those who receive restricted data (as defined in the Atomic Energy Act) through work with the Science Foundation shall be investigated by the Federal Bureau of Investigation as to character, associations, and loyalty and shall be cleared by the Atomic Energy Commission."

Subsections (b), (c), and (d): These subsections are included in section 15 of the conference substitute in lieu of subsection 10 (b) of the House amendment; subsection 14 (l) of the Senate bill and subsection 14 (k) of the House amendment; and subsections 14 (l) and (m) of the House amendment.

Subsections (b), (c), and (d) of section 15 of the conference substitute are as follows:

"(b) (1) In the case of scientific or technical research activities under this act in connection with matters relating to the national defense, with respect to which funds have been transferred to the Foundation from the Department of Defense in accordance with the provisions of section 14 (h) of this act, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as he deems necessary.

"(2) In the case of scientific research activities under this act in connection with matters relating to the national defense other than research activities referred to in paragraph (1) of this subsection, the Foundation shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as it deems necessary.

"(3) Any agency of the Government exercising investigatory functions is hereby authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) or (2) of this subsection.

"(c) No employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions have been established under subsection (b) (1) or (2) until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported the findings of said investigation to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such

information or property will not endanger the common defense and security.

"(d) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this act shall be used to make payments under any scholarship or fellowship to any individual unless such individual (1) has executed and filed with the Foundation an affidavit that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods, and (2) has taken and subscribed to an oath or affirmation in the following form: 'I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic.' The provisions of section 1001 of title 18, United States Code, shall be applicable with respect to such affidavits."

Subsection (d) is the same as section 10 (b) of the House amendment, except that it contains an additional requirement that before funds may be paid to an individual under a scholarship or fellowship such individual must subscribe to the following oath or affirmation:

"I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic."

Section 1001 of title 18, the penalties of which are by subsection (d) made applicable with respect to false affidavits executed under that subsection, applies only in the case of violations knowingly and willfully committed.

Subsection (b) is a modification of subsection 14 (l) of the Senate bill and subsection 14 (k) of the House amendment and requires the establishment of such security requirements and safeguards, including restrictions with respect to access to information and property, as may be deemed necessary in connection with research activities under the act in connection with matters relating to the national defense. Such requirements and safeguards will be established by the Secretary of Defense in the case of research carried on with funds transferred from the Department of Defense, and by the Foundation in the case of research carried on with other funds.

Subsections 14 (l) and (m) of the House amendment (quoted in full below at the beginning of the letter from the Department of Justice) required a specified investigation and report to be made by the Federal Bureau of Investigation with regard to any individual before he could be employed by the Foundation or awarded a scholarship, or, in the case of a national of a foreign country, before he could become associated with the Foundation in any capacity.

Serious objections have been made to these provisions of the House amendment by the Department of Justice and the Secretary of Defense. These objections are based on reasons which may be summarized as follows:

(1) If enacted, section 14 (l) would require the Federal Bureau of Investigation not only to investigate employees of the Foundation and applicants for scholarships but to evaluate the information collected through its investigation. This requirement would seriously impair the efficiency and reputation of the Federal Bureau of Investigation as an investigating agency.

(2) Section 14 (l) would preclude employment of, or awarding of scholarships to, persons who at any time have been members of so-called front organizations regardless of whether such persons withdrew from such organizations when they first suspected their subversive character. To deny to such per-

sons an opportunity to prove that their membership was innocent would unjustly penalize many completely loyal Americans who innocently joined such organizations, and the denial of such opportunity would be inconsistent with American concepts of justice and fairness.

(3) Section 14 (m) would require investigations to be carried on by the Federal Bureau of Investigation of foreign nationals in foreign countries. This requirement would be impractical since the Federal Bureau of Investigation does not have facilities for conducting investigations abroad.

The objections of the Department of Justice and the Secretary of Defense were set forth in identical letters to Senator ELBERT D. THOMAS, chairman of the Senate Committee on Labor and Public Welfare and chairman of the committee of conference, and to Hon. ROBERT CROSSER, chairman of the House Committee on Interstate and Foreign Commerce, the letter to Mr. CROSSER being as follows:

DEPARTMENT OF JUSTICE,
OFFICE OF THE ASSISTANT TO
THE ATTORNEY GENERAL,
Washington, March 6, 1950.
Hon. ROBERT CROSSER,
Chairman, Committee on Interstate
and Foreign Commerce,
House of Representatives,
Washington, D. C.

MY DEAR MR. CHAIRMAN: The legislation to establish the National Science Foundation (S. 247 and H. R. 4846) has been amended within the past few days in a manner which has caused me deep concern. I refer to two amendments added by the House of Representatives to S. 247. The first of these amendments read as follows:

"(1) No person shall be employed by the Foundation and no scholarship awarded to any person by the Foundation unless and until the Federal Bureau of Investigation shall have investigated the loyalty of such person and reported to the Foundation such person is loyal to the United States, believes in our system of government, and is not and has not at any time been a member of any organization declared subversive by the Attorney General or any organization that teaches or advocates the overthrow of our Government by force and violence."

The second amendment provides:

"(m) No person a national of a foreign country shall be associated with the Foundation in any capacity whatsoever unless and until the Federal Bureau of Investigation, independent of any investigation made by the government of such person, shall have investigated such person and reported to the Foundation that such person is not and has not at any time been a member of any organization that teaches or advocates the overthrow of the Government of the United States by force or violence."

I, of course, am firmly of the belief that disloyal persons should not be in the employ of the National Science Foundation. The amendments, however, go beyond this. Should they be enacted into law they would not only effect an extremely radical and undesirable change in the basic responsibilities and functions of the Federal Bureau of Investigation but also, in my opinion, they would bring about a departure from American concepts of justice and democratic government.

The Bureau is at the present time solely an investigative and fact-gathering agency; it does not evaluate or make recommendations with reference to the information it collects through its investigations. In loyalty investigations, as in others, the Bureau submits the information it has obtained through investigation for the consideration of the employing agency and for such determinations by that agency as may be required. The fine reputation which I believe the Bureau enjoys today as an impartial investiga-

tive agency results in large part because it has carefully restricted its activities to the making of investigations. Indeed, while the Bureau's expertness and high qualifications in this field would be challenged by no one, it is not equipped to go beyond the field of investigation and into that of making the determinations called for by the amendments. If the Bureau were called upon to perform the functions required by the amendments, its efficiency and good reputation as an investigative agency would be seriously impaired.

The enactment of either of the amendments mentioned above would remove the Bureau from its position as an impartial fact-gathering organization and impose upon it the responsibility for making decisions concerning the loyalty of individuals under consideration by the National Science Foundation for employment or for a fellowship under the act. To place the Bureau in the position of an evaluating agency regarding the loyalty of persons affected by this legislation is fraught with peril, not only to the Bureau itself, but also to the country at large. In the opinion of the Director of the Federal Bureau of Investigation, with which I agree, such legislation would constitute a clear departure from accepted fundamental theories of American government and lay a foundation for criticism of the Bureau as a state police organization.

It is also to be noted that the amendments, in precluding the employment of, or the awarding of a scholarship to, any person who has "at any time been a member of" any subversive organization seeks to deny to the Foundation the services of many Americans of unquestionable loyalty to the United States and its form of government who innocently joined a so-called front organization with the highest motives and who withdrew their membership from such organization upon their first suspicion of its subversive character.

It is characteristic of many front organizations that their purported purposes and programs are designed to appeal to loyal Americans and frequently it is behind a screen of respectability, loyalty, and even patriotism that subversive activities are carried on, often by only a few disloyal persons. In other instances a small minority subvert an organization of previously good purposes and having many members of unquestionable loyalty to the United States. This amendment would unjustly penalize many completely loyal Americans who innocently joined such organizations and would, in some measure, tend to defeat the carrying out of the purposes of the act.

The amendments also overlooked the fact that under the employee loyalty program, membership in an organization on the Attorney General's list is regarded as merely one piece of evidence pointing to possible disloyalty. The loyalty program enables an employee who is a member of a listed organization to respond to charges against him and to show that his membership is innocent and does not reflect upon his loyalty. This opportunity to defend oneself in a manner consistent with American concepts of justice and fairness is lacking from the amendments.

It is also to be noted, with regard to the second amendment, above quoted, that a very practical difficulty exists with respect to the proposed investigation of foreign nationals by the Federal Bureau of Investigation, in that the Bureau does not have facilities for conducting investigations abroad.

For the reasons above stated, I request and hope that you will make every effort to eliminate the amendments in question before final enactment of the National Science Foundation Act of 1949, thus leaving investigations of the personnel of this agency to be conducted on the same basis as investigations of personnel of other non-sensitive agencies.

I am authorized to state that this letter also reflects the views of the Secretary of Defense.

The Director of the Bureau of the Budget has advised that there is no objection to the submission of this recommendation.

Yours sincerely,

PEYTON FORD,

The Assistant to the Attorney General.

In reaching agreement on the provisions of section 15 the committee of conference has retained the purposes of subsections 14 (1) and (m) of the House amendment so far as it has been practicable to do so, but great weight has necessarily been given to the strongly expressed views of the Department of Justice and the Secretary of Defense.

The text of section 15 has been examined by representatives of the Department of Justice, and on April 25, 1950, the Honorable Peyton Ford, Assistant to the Attorney General, sent a joint letter to the chairman and vice chairman of the committee of conference in which he stated:

"The Department of Justice would have no objection to the proposed new section 15."

The committee of conference is convinced that the provisions of section 15 are adequate with regard to the loyalty investigation of individuals who will become employees of the Foundation or holders of scholarships or fellowships, or who will be associated with the Foundation in any way.

A draft of the proposed section 15 was submitted to the Department of Defense, and a letter regarding it was addressed to the chairman of the committee of conference on April 24, 1950, by Mr. William Webster, Chairman of the Research and Development Board of the Department. The letter states in part as follows:

"This draft has been examined with care, for the Department of Defense has long been strongly in favor of the establishment of a National Science Foundation. The proposed security provision seems to strike a proper balance between two objectives. It recognizes, first, the need to protect research and development related to the national defense according to the possible damage which could result from the disclosure to a potential enemy of information concerning it and, second, the need that scientific research, particularly basic research, be open in order to achieve maximum progress.

"It is our understanding that the National Science Foundation would deal principally with basic research and other matters of a nonclassified nature and that the authorization for it to engage in applied research in connection with matters relating to the national defense is designed primarily to enable the Foundation to assist the military effort in a small number of cases or in the event of an emergency. It does not appear that the volume of such work relating to the national defense will be significant, particularly classified work of that type. In view of the limitation on appropriations authorized for the Foundation, it may be expected that the bulk of such work would be carried on by funds transferred from the Department of Defense. In cases of this type, authority is provided to the Department by the proposed subsection (b) (1) to insure that adequate security precautions are taken wherever necessary. It is assumed that the subsection would authorize controls relating to any person who might have access to classified information including fellows and employees of the Foundation and its contractors. The caliber of men who will constitute the Foundation—appointed by the President and confirmed by the Senate—should provide assurance that the Foundation would take adequate precautions with respect to research supported by it and related to the national defense, if there be any. Furthermore, it is noted that all employees of the Foundation must be fully investigated

and cleared before being given access to any classified information.

"I understand that subsection (a) of the proposed security provisions has been approved by the Atomic Energy Commission. It appears that the principles involved in the proposed provisions and the provisions themselves will be satisfactory, particularly in view of the assurance above-mentioned that the Department of Defense would establish requirements covering the security of all research work supported with its funds. This letter has been coordinated among the departments and agencies of the Department of Defense in accordance with procedures established by the Secretary of Defense. Shortness of time, however, has prevented submission of it to the Bureau of the Budget for clearance."

It has already been pointed out in the explanation of subsection (a) that full investigation by the Federal Bureau of Investigation will be required, under the Atomic Energy Act of 1946, before individuals are permitted to have access to restricted data as defined in that act.

Subsection (c) provides that no employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions are established under subsection (b) (1) or (2), with respect to research related to the national defense, until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported its findings to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security. The investigation thus required is the same as that required under the Atomic Energy Act of 1946. Since the members of the Board and the Director will not be employees of the Foundation, but officers appointed by the President, by and with the advice and consent of the Senate, subsection (c) will not apply to them.

Under subsection (b) the security safeguards to be established by the Secretary of Defense and the Foundation in connection with research activities of the Foundation related to the national defense may provide for such investigations of scholarship and fellowship holders, employees of contractors, and others, as may be deemed necessary.

In order that the Federal Bureau of Investigation, the Central Intelligence Agency, and any other appropriate agency of the Government will have authority to make the investigations provided for pursuant to subsection (b), a paragraph (3) has been included specifically authorizing any agency of the Government exercising investigatory functions to make such investigations and reports as may be requested by the Foundation. Nothing in section 15 of the conference substitute is intended in any way to alter the present authority of the Federal Bureau of Investigation in matters dealing with internal security.

The provisions of subsection (b) are consistent with the method of imposing and enforcing security safeguards which is presently in effect with respect to the Department of Defense. In the case of that Department, it is left to its judgment to determine the instances in which to require investigations of individuals before they are permitted to have access to classified matters and, depending on the degree of secrecy involved, the nature and extent of the investigation to be made of particular individuals.

As indicated in the letter from the Chairman of the Research and Development Board, the Foundation's activities will be almost exclusively in basic research. Basic research generally does not involve security problems. It is confidently anticipated that only a very small part of its activities will be concerned

with research on matters related to restricted data in the field of nuclear energy or related to the national defense—the two fields in which problems of security may be involved. It is the considered judgment of the committee of conference that to the very limited extent that activities of the Foundation will involve security problems, section 15 of the conference substitute provides a sound and satisfactory method of dealing with those problems.

It is unnecessary to include in this legislation special penal provisions with respect to violations of the security requirements and safeguards which will be in effect, thereunder. As already pointed out, the penalties provided by the Atomic Energy Act of 1946 (in sec. 10 thereof) will apply with respect to any activity involving restricted data in the field of research related to nuclear energy. These penalties are wholly adequate. In the field of research related to the national defense, the same penalties which now apply to security matters concerning the Department of Defense will be applicable. These penalties are contained in title 18 of the United States Code, principally in chapter 37 thereof. Sections 793 and 794 of that chapter are as follows:

"§ 793. Gathering, transmitting, or losing defense information.

"Whoever, for the purpose of obtaining information respecting the national defense with intent or reason to believe that the information is to be used to the injury of the United States, or to the advantage of any foreign nation, goes upon, enters, flies over, or otherwise obtains information concerning any vessel, aircraft, work of defense, navy yard, naval station, submarine base, fueling station, fort, battery, torpedo station, dockyard, canal, railroad, arsenal, camp, factory, mine, telegraph, telephone, wireless, or signal station, building, office, or other place connected with the national defense, owned or constructed, or in progress of construction by the United States or under the control of the United States, or of any of its officers, departments or agencies, or within the exclusive jurisdiction of the United States, or any place in which any vessel, aircraft, arms, munitions, or other materials or instruments for use in time of war are being made, prepared, repaired, or stored, under any contract or agreement with the United States, or any department or agency thereof, or with any person on behalf of the United States, or otherwise on behalf of the United States, or any other prohibited place so designated by the President by proclamation in time of war or in case of national emergency in which anything for the use of the Army or Navy is being prepared or constructed or stored, information as to which the President has determined would be prejudicial to the national defense; or

"Whoever, for the purpose aforesaid, and with like intent or reason to believe, copies, takes, makes, or obtains, or attempts to copy, take, make, or obtain, any sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, document, writing, or note of anything connected with the national defense; or

"Whoever, for the purpose aforesaid, receives or obtains or agrees or attempts to receive or obtain from any person, or from any source whatever, any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, or note, of anything connected with the national defense, knowing or having reason to believe, at the time he receives or obtains, or agrees or attempts to receive or obtain it, that it has been or will be obtained, taken, made or disposed of by any person contrary to the provisions of this chapter; or

"Whoever, lawfully or unlawfully having possession of, access to, control over, or being

intrusted with any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, instrument, appliance, or note relating to the national defense, willfully communicates or transmits or attempts to communicate or transmit the same to any person not entitled to receive it, or willfully retains the same and fails to deliver it on demand to the officer or employee of the United States entitled to receive it; or

"Whoever, being intrusted with or having lawful possession or control of any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, note, or information, relating to the national defense, through gross negligence permits the same to be removed from its proper place of custody or delivered to anyone in violation of his trust, or to be lost, stolen, abstracted, or destroyed—

"Shall be fined not more than \$10,000 or imprisoned not more than ten years, or both.

"§ 794. Gathering or delivering defense information to aid foreign government.

"(a) Whoever, with intent or reason to believe that it is to be used to the injury of the United States or to the advantage of a foreign nation, communicates, delivers, or transmits, or attempts to communicate, deliver, or transmit, to any foreign government, or to any faction or party or military or naval force within a foreign country, whether recognized or unrecognized by the United States, or to any representative, officer, agent, employee, subject, or citizen thereof, either directly or indirectly, any document, writing, code book, signal book, sketch, photograph, photographic negative, blueprint, plan, map, model, note, instrument, appliance, or information relating to the national defense, shall be imprisoned not more than twenty years.

"(b) Whoever violates subsection (a) in time of war shall be punished by death or by imprisonment for not more than thirty years.

"(c) Whoever, in time of war, with intent that the same shall be communicated to the enemy, collects, records, publishes, or communicates, or attempts to elicit any information with respect to the movement, numbers, description, condition, or disposition of any of the armed forces, ships, aircraft, or war materials of the United States, or with respect to the plans or conduct, or supposed plans or conduct of any naval or military operations, or with respect to any works or measures undertaken for or connected with, or intended for the fortification or defense of any place, or any other information relating to the public defense, which might be useful to the enemy, shall be punished by death or by imprisonment for not more than thirty years.

"(d) If two or more persons conspire to violate this section, and one or more of such persons do any act to effect the object of the conspiracy, each of the parties to such conspiracy shall be subject to the punishment provided for the offense which is the object of such conspiracy."

RESEARCH ACTIVITIES OF OTHER GOVERNMENT AGENCIES

Section 14 of the Senate bill contained the following subsection not contained in the House amendment:

"(h) The activities of the Foundation shall be construed as supplementing and not superseding, curtailing, or limiting any of the functions or activities of other Government agencies authorized to engage in scientific research or development."

This provision has not been included in the conference substitute. No such provision seems needed to insure continuance of research which is or may be carried on by other Government agencies under specific statutory authority and the provision

seemed so broad and inflexible in its terms that its inclusion might unduly interfere with the administrative coordination through the National Science Foundation of activities in the basic sciences being carried on by various Government agencies.

Moreover, debate in the House over the striking out of a similar provision in the House bill as introduced made it clear that omission of the provision in no way implies that the Foundation is authorized to take over the research functions which have been granted other agencies by law or that the exercise of those functions is to be curtailed. It was made especially clear in the debate that its omission would not result in any limitation or curtailment of the programs of research in the fields of medicine and related activities being carried on by the National Institutes of Health or other units of the United States Public Health Service. After discussion of the nature of the research being carried on by the Institutes or supported by them, the committee of conference agreed with this interpretation.

TRANSFER OF NATIONAL ROSTER OF SCIENTIFIC AND SPECIALIZED PERSONNEL

Section 14 (i) of the conference substitute relates to the transfer to the Foundation of the National Roster of Scientific and Specialized Personnel, which is now in the United States Employment Service. The provision is the same as in the House amendment, except that the President, rather than the Director of the Bureau of the Budget, will have the authority to determine the records and property to be transferred with the roster and the time when the transfer shall take effect. This modification has been taken from the corresponding provision in the Senate bill.

J. PERCY PRIEST,
ANDREW J. BEMILLER,
GEO. HOWARD WILSON,
CARL HINSHAW,
JOSEPH P. O'HARA.

Managers on the Part of the House.

Mr. LEHMAN. Mr. President, as one of the conferees on the part of the Senate on this bill, I simply wish to say that I feel the proposed legislation is now in a satisfactory condition, and that the establishment of the National Science Foundation represents a great and a constructive step forward. I very much hope that the conference report will be agreed to by the Senate.

The VICE PRESIDENT. The question is on agreeing to the conference report.

The report was agreed to.

AMENDMENT OF ECONOMIC COOPERATION ACT OF 1948

The Senate resumed the consideration of the bill (S. 3304) to amend the Economic Cooperation Act of 1948, as amended.

The VICE PRESIDENT. The pending question is the amendment offered by the Senator from Missouri [Mr. KEM.]

Mr. SALTONSTALL. Mr. President, I wish to speak briefly in favor of an adequate authorization for the Economic Cooperation Administration and at more length in favor of the amendment which has been proposed by the Senator from Colorado [Mr. MILLIKIN] and myself, calling for a bipartisan study of technical assistance and private investment overseas.

Three years ago, on June 5, 1947, former Secretary of State Marshall spoke at a Harvard commencement. This was the origin of the so-called Marshall plan. In outlining what is

now the Economic Cooperation Administration, he stated:

I need not tell you gentlemen that the world situation is very serious.

He concluded his remarks by saying:

An essential part of any successful action on the part of the United States is an understanding on the part of the people of America of the character of the problem and remedies to be applied. Political preference and prejudice should have no part. With foresight and a willingness on the part of our people to face up to the vast responsibility which history has clearly placed upon our country, the difficulties I have outlined can and will be overcome.

The plan General Marshall outlined at that time has twice been authorized by Congress and funds have been appropriated to carry it out. It has been well administered by businessmen—Paul Hoffman and his assistants.

We now have before us a bill which includes a third authorization. I intend to vote for an adequate authorization, as I have for the two previous ones.

I do so because I believe that the ECA expenditures are in the best interests of our own security and of world peace. But these expenditures are in the best interests of our own security only if we make it clear that ECA, in its original concept, will be completed in 1952.

Nothing in the history of mankind has been more important than is peace to the present generation. Peace—and the security that goes with peace—means more to more people now than ever before in the history of the world. Of course there are great differences of opinion as to the best way to gain peace, but we all agree upon the final objective—peace with security.

Today the world is still in a turbulent condition. The uncertainties we face from day to day are brought home to us by new incidents. Only last week 10 of our citizens in an unarmed plane were shot down and killed or drowned. More incidents are bound to come. We can expect them. Apparently Soviet Russia does not begin to understand the moral fiber of the American people. The more incidents, the tougher we are going to get, and the more we will understand how to deal with a ruthless opponent. This does not mean war, but it does mean that we cannot predict just what is in store for us in the years ahead. I optimistically and sincerely believe we are gaining in our over-all effort to bring about greater security and peace, but we cannot for one moment relax that effort. Certainly, an adequate authorization and appropriation for ECA in the fiscal year 1951 is one more such necessary effort on our part.

We are all familiar to a greater or less degree with the problems represented by the ECA. We have become so by listening to the debates on the floor and in committee over the past 2 years. So, I should like for a few moments to discuss briefly one subject which is not strictly a part of the responsibility of the ECA, but which has become a part of the pending bill by reason of the action of the House in joining to the ECA authorization for 1951 a new title: "Title III—An Act for International Development." This title seeks to create in other coun-

tries an atmosphere or climate favorable to private investment and provides for technical assistance to underdeveloped areas.

Mr. CONNALLY. Mr. President, will the Senator yield?

The VICE PRESIDENT. Does the Senator from Massachusetts yield to the Senator from Texas?

Mr. SALTONSTALL. I yield to the distinguished Senator from Texas.

Mr. CONNALLY. The provisions of the Senate bill are not those contained in the House bill. The Senate bill is not centered around the idea of encouragement of foreign investments. It is confined to purely technical and other assistance. I wanted to bring that to the Senator's attention.

Mr. SALTONSTALL. I may say to the Senator from Texas I realize that, and I shall discuss it more fully as I proceed. I realize the distinction.

Mr. CONNALLY. I wanted the Senator to bear that in mind. The Senate committee did not feel that this was a program to export our funds to foreign countries for foreign investment. I know there is much support for the idea in this country, but we were confining it purely to technical and other assistance.

Mr. SALTONSTALL. I thank the Senator.

The Senate Foreign Relations Committee, in reporting the ECA authorization, omitted title III of the House bill, but the chairman of the committee [Mr. CONNALLY] has filed on behalf of the committee an amendment creating a new title, title V, which covers in part title III of the House bill. It provides for technical assistance, but does nothing toward creating a favorable atmosphere for private investment.

The House authorized \$25,000,000 for its title III. The Connally amendment authorizes an appropriation of \$45,000,000 for his title V, \$20,000,000 more than the House authorized for the same general purposes: namely, the providing of technical assistance to underdeveloped areas. But, the provision for technical assistance is only a part of the problem as I see it. The other part is the responsibility of our Government to create an atmosphere which will encourage private investment in other areas of the world, such an atmosphere as may also result in furnishing the technical assistance which under the Connally amendment Government alone must provide.

Mr. President, I favor title III of the House bill. I had hoped that the Senate Foreign Relations Committee might see fit to recommend it in its entirety, but in their wisdom they have not. They have merely seen fit to recommend the technical assistance part without the investment "atmosphere" part. As a member of the Appropriations Committee, I have recently heard a great deal about technical assistance and am beginning to learn of its many ramifications that already exist within our governmental departments. At first I thought that I would offer title III of the House bill as an amendment to this bill, but after careful consideration, I decided that it could not be adopted, and therefore I thought of ways and means to which the Senate might agree and which, in the

long run, would preserve a program similar to that contemplated in the President's point 4 program and implemented by title III of the House bill.

I believe that the amendment filed by the Senator from Colorado for a bipartisan study is a proper approach. This amendment, if adopted, as I hope it will be, will solidify in its report the thinking of various groups of people. It will point up to the Congress where we are headed and point it up to the American people in more concrete terms than it has been possible to do to date because of the newness of the whole proposal and the total problem.

While I realize there has been broad discussion of point 4 and that in its objectives it is backed by a great many organizations and people, I do not believe the average individual has had an opportunity to think through this question and where it may lead us in all of its various ramifications. It is the duty of the Congress to appropriate, and I feel that the Congress wants to understand what the program is, and where it will head before too large appropriations are made.

On September 15, 1949, I introduced Senate bill 2561, entitled, "A Bill To Establish a Program of Foreign Economic Development." This was exactly the same bill as was introduced in the House by Representative HERTER of Massachusetts. On January 24, 1950, Representative HERTER introduced in the House an improved version, and I introduced in the Senate the same version, which is now Senate bill 2197. The bill introduced by Mr. HERTER became the basis of title III of House bill 7797, a bill to provide foreign economic assistance, which was passed by the House. Now, in the interest of seeing the overall problem in point 4 get off to a proper start, and to see that its potentialities are properly recognized and developed, with emphasis on private investment, I have joined with the Senator from Colorado [Mr. MILLIKIN] in filing an amendment to Senate bill 3304, which is now pending.

Mr. CONNALLY. Mr. President, will the Senator yield?

Mr. SALTONSTALL. I yield to the Senator from Texas.

Mr. CONNALLY. Is it the major purpose of the Senator from Massachusetts and the Senator from Colorado to encourage foreign investments?

Mr. SALTONSTALL. I cannot speak for the Senator from Colorado on that point. I speak for myself alone. I listened very intently to the President's explanation of point 4. I believe we should, to the best of our ability, provide an atmosphere to encourage American businessmen to take an interest in other countries, to help develop those countries in the way we have always gone ahead in this country and in our undertakings throughout the world, from the early clipper-ship days on. I would say to the distinguished chairman of the Foreign Relations Committee that there are many problems involved which I shall discuss at length. I believe in the purpose, in the ideal, and in the principle involved in creating an atmosphere for pri-

weekly, and is divided into two parts. In the first, Mr. Block plays the latest music releases and, in the second, he plays requests from overseas listeners, mentioning their names. The format of the show is similar to the domestic version of "Make-Believe Ballroom," except that more attention is given to background material about the music, composers, and musicians.

Since the International Make-Believe Ballroom started, Mr. Block has never failed to produce the weekly show, despite illnesses and the pressure of his own career.

The first anniversary will be characterized on the Voice of America by a special 1-hour program, which will include congratulations and greetings from some of America's leading performers.

What Alaska Needs

EXTENSION OF REMARKS OF

HON. COMPTON I. WHITE

OF IDAHO

IN THE HOUSE OF REPRESENTATIVES

Wednesday, April 26, 1950

Mr. WHITE of Idaho. Mr. Speaker, many years ago, I read a report of the Department of Agriculture that Alaska was capable of supporting a population comparable with the combined population of the Scandinavian countries of Sweden, Norway, and Finland. I believe that was before gold was discovered in the Klondike and at Nome.

Since then, Alaska has come in for considerable attention by the Federal departments with the result that little in the way of real development has been accomplished.

Gold miners never do much in developing any country. Their motive, in the past, has been to get into a country, get the gold, and get out.

One of Alaska's most valuable resources is its timber. Withdrawing Alaskan timberlands from settlement to put them in forest reserves has greatly retarded the development of the Territory. If there is any resource that has sustained the settlers that went up on the public land in this country and built up the communities of our Nation, it was our stands of timber on public land. If there is anything that sustains the Finnish people today, it is the utilization of Finland's timber resources.

Alaska needs transportation. It needs roads and settlers. It needs a liberal policy by the Federal Government in assisting the settlers to go upon and own their lands and homes, and encouragement to use Alaska's natural resources, including Alaska's stands of timber.

Let us remove the blocks holding Alaska back and let the great common wealth roll forward in its development as the forty-ninth State in the Union.

There is inserted herewith for the consideration of my colleagues an appeal to the President by the people of Hot Springs, Alaska, for the continuation and protection of their indispensable air transportation by the so-called bush pilots:

MR. PRESIDENT, WE ARE LOSING FAITH

For decades, we who live in Alaska have been doing our best to develop the resources

of our great Territory and to expand the economy of our northland. We have been doing all in our power to build a good American civilization up here in these northern latitudes.

WE WERE INSPIRED

We were tremendously inspired when you sent special messages to Congress urging a great program of development in Alaska. We were very happy when you pointed out the opportunities for permanent settlement in the Territory. We knew we had a friend in the White House when you urged immediate statehood for Alaska—equal rights under the American flag for us living up here. We knew that you had an accurate picture of Alaska's strategic importance when you championed an impregnable over-the-top defense.

With your sponsorship, we had high hopes for the rapid growth of our Territory. But one agency of our Federal Government is completely nullifying your program for Alaska. This agency is hamstringing, stifling, and thwarting progress and growth in the Territory.

This agency is the Civil Aeronautics Board. As far as Alaska is concerned, the CAB is doing exactly the opposite of what was intended in the act of 1938 under which the CAB was sworn.

THE CAB DESTROYS

In Alaska, the CAB is killing off the bush flyer so vital to the economy of our hinterland.

In Alaska, the CAB is doing a miserable job of dealing with the problems of the intra-Alaskan air carriers.

The CAB has publicly announced that it is determined that the nonscheduled, low-cost air carriers between the States and Alaska—upon whom we depend for more than two-thirds of our food, supplies, and merchandise—shall be wiped from the skies.

Though we have been trying, for years, to get more scheduled air lines between the States and Alaska, the CAB says, in substance, that this is not necessary, that additional service would not be in the public interest.

It is this type of unrealistic thinking on the part of the CAB that clearly shows the Board's lack of understanding of the problems of the Territory. Is it any wonder, Mr. President, that we in the Territory call the CAB "the low man on the totem pole"?

The Alaska Territorial Legislature sent a memorial to the CAB stating that this agency was working 100 percent against the best interests of Alaska. Where did it get us? Nowhere.

Chambers of commerce from one end of Alaska to the other have expressed their disapproval of CAB policies. The Alaska Development Board, merchants' associations, community clubs, government agencies, the clergy, countless individuals, the persecuted pilots themselves and even native tribes have all protested to the CAB—but without avail.

In our own case, Mr. President, in our own village of Hot Springs, Alaska, the CAB arbitrarily, and without adequate hearing, denied our local air line the right to carry United States mail. The CAB gave the certificate to a large company which had never served our town. It meant nothing to the CAB that Lon Brennan and Bob Byers had served us faithfully and honestly for more than 10 years, that they had helped us build up our hinterland economy so that all of us were making a pretty good living. It meant nothing to the CAB that this bush company would not be able to survive the competition of an air line guaranteed a profit and receiving a subsidy from the United States Treasury.

Never had a member of the CAB, while in office, ever come to Alaska to find out first hand, our needs in air transportation. Never had even an Alaskan employee of the Board

been to our area to see how much we depended on Lon Brennan and Bob Byers for our basic economic needs. Yet the CAB, sitting in Washington, handed down a decision which, if allowed to stand, will kill the economy of our area.

We have lost all confidence in the CAB, Mr. President. Our last hope was dashed last November when a member of the Board made a swift 10-day trip to three cities of the Territory. We had high hopes that he would make an effort to understand our air needs. But he came to tell us, and not to listen. He refused to talk with two-thirds of the persons who asked to talk with him. From our standpoint, his trip was a dismal failure.

FACT-FINDING COMMISSION

Mr. President, we Alaskans petition you to appoint a Presidential fact-finding commission of at least five impartial and unbiased minds. We ask that this commission come to Alaska to hold hearings on the air needs of Alaska, to talk formally and informally with our citizens on what kind of air policy will best serve the needs of a growing country, what kind of policy will help—not hinder—the over-the-top defense program.

This fact-finding commission should represent the Federal Government and the public in the broadest sense. The commission members should have a hearty sympathy for the problems of the frontier. They should be willing to listen to the little man—the American pioneer in Alaska who stakes his bank roll on a chance to pull himself up by his bootstraps.

Mr. President, we want a fair deal in Alaska. We want a fair deal for Lon Brennan and Bob Byers in our own backyard. We want a fair deal for all other bush pilots in the Territory. We want a fair deal for the nonscheduled air carriers between the States and Alaska. We want a fair deal for the intra-Alaskan carriers. And we believe we are entitled to more scheduled service between Alaska and all parts of the States.

Mr. President, the citizens of Alaska ask your cooperation. Give us, for the economy of the Territory, an air industry free from the paralysis of the CAB, and we shall forever be grateful.

CITIZENS OF HOT SPRINGS, ALASKA.

Invocation at Jackson-Jefferson Day Banquet

EXTENSION OF REMARKS OF

HON. EDWIN C. JOHNSON

OF COLORADO

IN THE SENATE OF THE UNITED STATES

Friday, April 28 (legislative day of
Wednesday, March 29), 1950

Mr. JOHNSON of Colorado. Mr. President, I ask unanimous consent to insert in the Appendix of the RECORD the invocation delivered at the Jackson-Jefferson Day banquet at Denver, Colo., by the Rt. Rev. Msgr. John R. Mulroy on April 20, 1950. Many who heard it rejoiced in its excellence. Therefore, I wish to give others the opportunity of profiting from it.

There being no objection, the invocation was ordered to be printed in the RECORD, as follows:

INVOCATION

O God, Our Father, behold this assembly of Thy children who invoke Thy Name and ask for Thy blessing. Tonight thou deign to begin this rally by calling on Thee, in

adoration, love, and thanksgiving. You have bestowed many blessings upon them in the years just passed. They have been instruments in the sharing of those blessings by many citizens and many nations. Therefore, they say with the psalmist, "Non nobis, Domine, non nobis sed nominis tui da gloriam!" "Not to us, O Lord, not to us, but to Thy Name give glory."

Tonight we thank Thee for Thy many gifts, that we may be worthy of their continuation in the future. We ask Thy benediction for all here assembled, not only upon the food they eat, but upon all the thoughts, desires, and resolves that they here make.

We are aware of our shortcomings. We know that as with some of Columbus' men, false lights appeared on a shadowy shore, as gleaming cities of the mirage allure the weary travelers with visions that can not endure, so the false philosophy of heaven on earth has led some of us astray. Disillusion them tonight, O good God, by words of wisdom from their leaders, bring them the blessings of harmony in speech and honesty in action. May the sense of accountability to Thee, O kind, but just God, return to those who have forgotten it. May all of us realize that success and honor bring duties and responsibilities and that in our fair land, stewardship is weighed in the balance of our fellow citizens. Ultimately, honesty and unselfishness tip the scales.

Bless in particular, tonight, our honored speaker and his distinguished conferees in national and State affairs. May they have courage, confidence, and good health to continue their good deeds so many of which go unrecognized and unrewarded. May they keep our ship of state as a true vessel of Thy election, O good God, to bring justice, mercy, and charity to all mankind. Be with us now and always that we may not lose the keys of Thy kingdom on earth and in Heaven. Amen!

Establishment of National Science Foundation

SPEECH
OF

HON. ANDREW J. BIEMILLER

OF WISCONSIN

IN THE HOUSE OF REPRESENTATIVES

Thursday, April 27, 1950

The House had under consideration the conference report on the bill (S. 247) to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

Mr. PRIEST. Mr. Speaker, I yield 3 minutes to the gentleman from Wisconsin [Mr. BIEMILLER].

Mr. BIEMILLER. Mr. Speaker, I simply want to add my words to what has previously been said about the conference report. The bill as it has come out of conference meets most of the objections which were raised on the floor of the House. I think the security provisions in particular as worked out in conference will leave no doubt in anyone's minds as to their value and soundness. I do not think they discriminate against anyone. I think they do offer protection which is needed for the welfare of our country. The AEC will have jurisdiction as has been explained by the gentleman from Tennessee [Mr. PRIEST] over any matter affecting nuclear energy. The Department of Defense will have

jurisdiction as far as its rules and penalties will prevail over any matter affecting national defense on projects initiated or requested by the Department of Defense. Otherwise we have the same kind of provisions that the Committee on Interstate and Foreign Commerce originally asked for in the bill. Furthermore, on the question raised by the gentleman from New York [Mr. WADSWORTH] we have written a very intelligent provision in the bill to the effect that the Foundation shall not support any research of an applied scientific nature in the field of national defense unless requested specifically by the Secretary of Defense to take such action so that clause will keep the Foundation from supporting research in a great variety of applied fields as some Members feared. It is the intent of the conferees as is carefully explained in the report to limit the National Science Foundation insofar as practicable to basic research. That is the intent and that is the field that all of us felt there was a lack in at the present time. We want to penetrate the walls of darkness that now exist in certain fields of science. I think we will succeed in so doing through the establishment of the National Science Foundation.

Mr. Speaker, it was a great privilege to serve on the conference committee which has reported this very important piece of legislation. The inspiring leadership of the gentleman from Tennessee [Mr. PRIEST] was most helpful to all of us on the conference committee and the fine bill that is now before the House is in large part his creation. He has made a great contribution to the future of our beloved country.

The SPEAKER. The time of the gentleman from Wisconsin [Mr. BIEMILLER] has expired.

Time for Defense

EXTENSION OF REMARKS
OF

HON. OVERTON BROOKS

OF LOUISIANA

IN THE HOUSE OF REPRESENTATIVES

Friday, April 28, 1950

Mr. BROOKS. Mr. Speaker, under leave to extend and revise my remarks, I include a radio interview on the Time for Defense program between Gen. J. Lawton Collins, Chief of Staff, United States Army, and Mr. Lyle C. Wilson, chief of the Washington Bureau, United Press, on April 25. In this interview, General Collins deals with national defense from the Army viewpoint; and his timely and very informative remarks follow:

General COLLINS. It is a pleasure to be back on the Time for Defense program, which is performing a great service in giving the American people facts about their national defense. It is even more of a pleasure to introduce our guests for this evening, Mr. Lyle Wilson, chief of the United Press Washington Bureau for the past 16 years and a keen student of our many and complex problems of security. We are happy to have you with us tonight, Lyle.

Mr. WILSON. Thank you, General Collins. I have some questions, the first of which concerns the state of readiness of our armed forces, and about which there has been much discussion recently in the press. Could you tell us, just how ready is the Army today?

General COLLINS. Mr. Wilson, we have a small Army but a good one. During the war, we had 90 combat divisions, all but one of which saw action. Today, we have only 10 divisions at reduced strength. Our units are equipped principally with World War II equipment, most of which is about 7 years old. However, we do have some units—the Eighty-second Airborne Division at Fort Bragg, N. C., for example—which are ready right now to move to any spot in the world in case of emergency. For the entire Army, however, I can summarize by saying that with due consideration for strength restrictions add certain deficiencies in equipment, our units, if attacked, would give an excellent account of themselves.

Mr. WILSON. Well, thank you, you answered up on that one. Now, let me ask you this question. What, in your opinion, have been the Army's most noteworthy postwar weapon developments?

General COLLINS. Some of our most noteworthy postwar weapon developments have been in the field of defense against air attack. Because new developments in aircraft are rapidly making our conventional anti-aircraft guns obsolete, our problem has been to develop new weapons to combat the high-flying, fast bombers that may be used to attack the United States. I am happy to tell you that the Army is making genuine progress in this field. Naturally, the details of these weapons will have to remain secret, but I think that the American people ought to know as much as possible about what they can expect from the Army as far as protection from air attack is concerned. For example, the Army has in the advanced stages of development new anti-aircraft rockets, which will be relatively inexpensive, and which we are confident will be able to destroy planes at altitudes above 60,000 feet.

Mr. WILSON. Pretty high.

General COLLINS. Yes, indeed. That's far in excess of the capabilities of present-day bombers.

We also have an anti-aircraft guided missile which gives promise of destroying attacking planes at even greater ranges and with even greater accuracy.

Another problem which plagued us during the war, and which has been intensified since, is how to defeat potential aggressor armies that have vast numbers of tanks. We now feel that we are well on the way toward producing a weapon of radical design that can fill this need, and which may, in fact, change the whole concept of tank warfare.

Of course, the principal limitation in the development of all of these new weapons is the availability of funds, because we can never get as much money as we feel we need. But I can assure you that the Army is getting the utmost out of every dollar it spends for research and development. In its efforts to provide these new weapons, the Army has engaged outstanding civilian scientists and industrialists who are doing a splendid job in helping us.

Mr. WILSON. That's encouraging. Now I would like to discuss with you one of the basic concepts of the Army system. The other day I read a fine compliment to your organization, in Mr. Alfred P. Sloan's autobiography, in which he stated that when he became President of General Motors he developed a General Staff similar to the one used in the Army, organized, you know, on a functional basis. That is certainly a tribute to the Army when you consider that management efficiency and economy have always been vital to American business. General Collins, just what is the Army's

[PUBLIC LAW 507—81ST CONGRESS]

[CHAPTER 171—2D SESSION]

[S. 247]

AN ACT

To promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Science Foundation Act of 1950".

ESTABLISHMENT OF NATIONAL SCIENCE FOUNDATION

SEC. 2. There is hereby established in the executive branch of the Government an independent agency to be known as the National Science Foundation (hereinafter referred to as the "Foundation"). The Foundation shall consist of a National Science Board (hereinafter referred to as the "Board") and a Director.

FUNCTIONS OF THE FOUNDATION

SEC. 3. (a) The Foundation is authorized and directed—

(1) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(2) to initiate and support basic scientific research in the mathematical, physical, medical, biological, engineering, and other sciences, by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such basic scientific research and to appraise the impact of research upon industrial development and upon the general welfare;

(3) at the request of the Secretary of Defense, to initiate and support specific scientific research activities in connection with matters relating to the national defense by making contracts or other arrangements (including grants, loans, and other forms of assistance) for the conduct of such scientific research;

(4) to award, as provided in section 10, scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences;

(5) to foster the interchange of scientific information among scientists in the United States and foreign countries;

(6) to evaluate scientific research programs undertaken by agencies of the Federal Government, and to correlate the Foundation's scientific research programs with those undertaken by individuals and by public and private research groups;

(7) to establish such special commissions as the Board may from time to time deem necessary for the purposes of this Act; and

(8) to maintain a register of scientific and technical personnel and in other ways provide a central clearinghouse for information covering all scientific and technical personnel in the United States, including its Territories and possessions.

(b) In exercising the authority and discharging the functions referred to in subsection (a) of this section, it shall be one of the objectives of the Foundation to strengthen basic research and education in the sciences, including independent research by individuals, throughout the United States, including its Territories and possessions, and to avoid undue concentration of such research and education.

(c) The Foundation shall render an annual report to the President for submission on or before the 15th day of January of each year to the Congress, summarizing the activities of the Foundation and making such recommendations as it may deem appropriate. Such report shall include (1) minority views and recommendations if any, of members of the Board, and (2) information as to the acquisition and disposition by the Foundation of any patents and patent rights.

NATIONAL SCIENCE BOARD

SEC. 4. (a) The Board shall consist of twenty-four members to be appointed by the President, by and with the advice and consent of the Senate, and of the Director ex officio, and shall, except as otherwise provided in this Act, exercise the authority granted to the Foundation by this Act. The persons nominated for appointment as members (1) shall be eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs; (2) shall be selected solely on the basis of established records of distinguished service; and (3) shall be so selected as to provide representation of the views of scientific leaders in all areas of the Nation. The President is requested, in the making of nominations of persons for appointment as members, to give due consideration to any recommendations for nomination which may be submitted to him by the National Academy of Sciences, the Association of Land Grant Colleges and Universities, the National Association of State Universities, the Association of American Colleges, or by other scientific or educational organizations.

(b) The term of office of each voting member of the Board shall be six years, except that (1) any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term; and (2) the terms of office of the members first taking office after the date of enactment of this Act shall expire, as designated by the President at the time of appointment, eight at the end of two years, eight at the end of four years, and eight at the end of six years, after the date of enactment of this Act. Any person who has been a member of the Board for twelve consecutive years shall thereafter be ineligible for appointment during the two-year period following the expiration of such twelfth year.

(c) The President shall call the first meeting of the Board, at which the first order of business shall be the election of a chairman and a vice chairman.

(d) The Board shall meet annually on the first Monday in December and at such other times as the Chairman may determine, but he shall also call a meeting whenever one-third of the members so request in writing. A majority of the voting members of the Board shall constitute a quorum. Each member shall be given notice, by registered mail mailed to his last-known address of record not less than fifteen days prior to any meeting, of the call of such meeting.

(e) The first Chairman and Vice Chairman of the Board shall be elected by the Board to serve until the first Monday in December next succeeding the date of election at which time a Chairman and Vice Chairman shall be elected for a term of two years. Thereafter such election shall take place at the annual meeting occurring at the end of each such term. The Vice Chairman shall perform the duties of the Chairman in his absence. In case a vacancy occurs in the chairmanship or vice chairmanship, the Board shall elect a member to fill such vacancy.

DIRECTOR OF THE FOUNDATION

SEC. 5. (a) There shall be a Director of the Foundation who shall be appointed by the President, by and with the advice and consent of the Senate. The Board may make recommendations to the President with respect to the appointment of the Director, and the Director shall not be appointed until the Board has had an opportunity to make such recommendations. He shall serve as a nonvoting ex officio member of the Board. In addition thereto he shall be the chief executive officer of the Foundation. The Director shall receive compensation at the rate of \$15,000 per annum and shall serve for a term of six years unless sooner removed by the President.

(b) In addition to the powers and duties specifically vested in him by this Act, the Director shall, in accordance with the policies established by the Board, exercise the powers granted by sections 10 and 11 of this Act, together with such other powers and duties as may be delegated to him by the Board; but no final action shall be taken by the Director in the exercise of any power granted by section 10 or 11 (c) unless in each instance the Board has reviewed and approved the action proposed to be taken.

POWER TO CREATE COMMITTEES

SEC. 6. (a) The Board is authorized to appoint from among its members an Executive Committee, and to assign to the Executive Committee such of the powers and functions granted to the Board by this Act as it deems appropriate; except that the Board may not assign to the Executive Committee the function of establishing policies, or the function of review and approval (except review and approval of minor modifications of contracts or other arrangements previously approved by the Board), to be exercised by the Board in accordance with section 5 (b).

(b) If an Executive Committee is established by the Board—

(1) Such Committee shall consist of the Director, as a non-voting ex officio member, and nine other members elected by the Board from among their number.

(2) The term of office of each voting member of such Committee shall be two years, except that (A) any member elected to fill a vacancy occurring prior to the expiration of the term for which his predecessor was elected shall be elected for the remainder of such term; and (B) the term of office of four of the members first elected after the date of enactment of this Act shall be one year.

(3) Any person who has been a member of such Committee for six consecutive years shall thereafter be ineligible for election during the two-year period following the expiration of such sixth year.

(4) The membership of such Committee shall, so far as practicable, be representative of diverse interests and shall be so chosen as to provide representation, so far as practicable, for all areas of the Nation.

(5) Such Committee shall render an annual report to the Board, and such other reports as it may deem necessary, summarizing its activities and making such recommendations as it may deem appropriate. Minority views and recommendations, if any, of members of the Executive Committee shall be included in such reports.

(c) The Board is authorized to appoint from among its members or otherwise such committees as it deems necessary, and to assign to committees so appointed such survey and advisory functions as the Board deems appropriate for the purposes of this Act.

DIVISIONS WITHIN THE FOUNDATION

SEC. 7. (a) Until otherwise provided by the Board there shall be within the Foundation the following divisions:

(1) A Division of Medical Research;

(2) A Division of Mathematical, Physical, and Engineering Sciences;

(3) A Division of Biological Sciences; and

(4) A Division of Scientific Personnel and Education, which shall be concerned with programs of the Foundation relating to the granting of scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences.

(b) There shall also be within the Foundation such other divisions as the Board may, from time to time, deem necessary.

DIVISIONAL COMMITTEES

SEC. 8. (a) There shall be a committee for each division of the Foundation.

(b) Each divisional committee shall be appointed by the Board and shall consist of not less than five persons who may be members or nonmembers of the Board.

(c) The terms of members of each divisional committee shall be two years. Each divisional committee shall annually elect its own chairman from among its own members and shall prescribe its own rules of procedure subject to such restrictions as may be prescribed by the Board.

(d) Each divisional committee shall make recommendations to, and advise and consult with, the Board and the Director with respect to matters relating to the program of its division.

SPECIAL COMMISSIONS

SEC. 9. (a) Each special commission established pursuant to section 3 (a) (7) shall consist of eleven members appointed by the Board, six of whom shall be eminent scientists and five of whom shall be persons other than scientists. Each special commission shall choose its own chairman and vice chairman.

(b) It shall be the duty of each such special commission to make a comprehensive survey of research, both public and private, being

carried on in its field, and to formulate and recommend to the Foundation at the earliest practicable date an over-all research program in its field.

SCHOLARSHIPS AND GRADUATE FELLOWSHIPS

SEC. 10. The Foundation is authorized to award, within the limits of funds made available specifically for such purpose pursuant to section 16, scholarships and graduate fellowships for scientific study or scientific work in the mathematical, physical, medical, biological, engineering, and other sciences at accredited nonprofit American or nonprofit foreign institutions of higher education, selected by the recipient of such aid, for stated periods of time. Persons shall be selected for such scholarships and fellowships from among citizens of the United States, and such selections shall be made solely on the basis of ability; but in any case in which two or more applicants for scholarships or fellowships, as the case may be, are deemed by the Foundation to be possessed of substantially equal ability, and there are not sufficient scholarships or fellowships, as the case may be, available to grant one to each of such applicants, the available scholarship or scholarships or fellowship or fellowships shall be awarded to the applicants in such manner as will tend to result in a wide distribution of scholarships and fellowships among the States, Territories, possessions, and the District of Columbia.

GENERAL AUTHORITY OF FOUNDATION

SEC. 11. The Foundation shall have the authority, within the limits of available appropriations, to do all things necessary to carry out the provisions of this Act, including, but without being limited thereto, the authority---

(a) to prescribe such rules and regulations as it deems necessary governing the manner of its operations and its organization and personnel;

(b) to make such expenditures as may be necessary for administering the provisions of this Act;

(c) to enter into contracts or other arrangements, or modifications thereof, for the carrying on, by organizations or individuals in the United States and foreign countries, including other government agencies of the United States and of foreign countries, of such basic scientific research activities as the Foundation deems necessary to carry out the purposes of this Act, and, at the request of the Secretary of Defense, specific scientific research activities in connection with matters relating to the national defense, and, when deemed appropriate by the Foundation, such contracts or other arrangements, or modifications thereof, may be entered into without legal consideration, without performance or other bonds, and without regard to section 3709 of the Revised Statutes;

(d) to make advance, progress, and other payments which relate to scientific research without regard to the provisions of section 3648 of the Revised Statutes (31 U. S. C., sec. 529);

(e) to acquire by purchase, lease, loan, or gift, and to hold and dispose of by sale, lease, or loan, real and personal property of all kinds necessary for, or resulting from, the exercise of authority granted by this Act;

(f) to receive and use funds donated by others, if such funds are donated without restriction other than that they be used in furtherance of one or more of the general purposes of the Foundation;

(g) to publish or arrange for the publication of scientific and technical information so as to further the full dissemination of information of scientific value consistent with the national interest, without regard to the provisions of section 87 of the Act of January 12, 1895 (28 Stat. 622), and section 11 of the Act of March 1, 1919 (40 Stat. 1270; 44 U. S. C., sec. 111);

(h) to accept and utilize the services of voluntary and uncompensated personnel and to provide transportation and subsistence as authorized by section 5 of the Act of August 2, 1946 (5 U. S. C. 73b-2) for persons serving without compensation; and

(i) to prescribe, with the approval of the Comptroller General of the United States, the extent to which vouchers for funds expended under contracts for scientific research shall be subject to itemization or substantiation prior to payment, without regard to the limitations of other laws relating to the expenditure of public funds and accounting therefor.

PATENT RIGHTS

SEC. 12. (a) Each contract or other arrangement executed pursuant to this Act which relates to scientific research shall contain provisions governing the disposition of inventions produced thereunder in a manner calculated to protect the public interest and the equities of the individual or organization with which the contract or other arrangement is executed: *Provided, however,* That nothing in this Act shall be construed to authorize the Foundation to enter into any contractual or other arrangement inconsistent with any provision of law affecting the issuance or use of patents.

(b) No officer or employee of the Foundation shall acquire, retain, or transfer any rights, under the patent laws of the United States or otherwise, in any invention which he may make or produce in connection with performing his assigned activities and which is directly related to the subject matter thereof: *Provided, however,* That this subsection shall not be construed to prevent any officer or employee of the Foundation from executing any application for patent on any such invention for the purpose of assigning the same to the Government or its nominee in accordance with such rules and regulations as the Director may establish.

INTERNATIONAL COOPERATION AND COORDINATION WITH FOREIGN POLICY

SEC. 13. (a) The Foundation is hereby authorized to cooperate in any international scientific research activities consistent with the purposes of this Act and to expend for such international scientific research activities such sums within the limit of appropriated funds as the Foundation may deem desirable. The Director, with the approval of the Board, may defray the expenses of representatives of Government agencies and other organizations and of individual scientists to accredited international scientific congresses and meetings whenever he deems it necessary in the promotion of the objectives of this Act.

(b) (1) The authority to enter into contracts or other arrangements with organizations or individuals in foreign countries and with agencies of foreign countries, as provided in section 11 (c), and the authority to cooperate in international scientific research activities as provided in subsection (a) of this section, shall be exercised only with the approval of the Secretary of State, to the end that such authority shall be exercised in such manner as is consistent with the foreign policy objectives of the United States.

(2) If, in the exercise of the authority referred to in paragraph (1) of this subsection, negotiation with foreign countries or agencies thereof becomes necessary, such negotiation shall be carried on by the Secretary of State in consultation with the Director.

MISCELLANEOUS PROVISIONS

SEC. 14. (a) The Director shall, in accordance with such policies as the Board shall from time to time prescribe, appoint and fix the compensation of such personnel as may be necessary to carry out the provisions of this Act. Such appointments shall be made and such compensation shall be fixed in accordance with the provisions of the civil-service laws and regulations and the Classification Act of 1949: *Provided*, That the Director may, in accordance with such policies as the Board shall from time to time prescribe, employ such technical and professional personnel and fix their compensation, without regard to such laws, as he may deem necessary for the discharge of the responsibilities of the Foundation under this Act. The Deputy Director hereinafter provided for, and the members of the divisional committees and special commissions, shall be appointed without regard to the civil-service laws or regulations. Neither the Director nor the Deputy Director shall engage in any other business, vocation, or employment than that of serving as such Director or Deputy Director, as the case may be; nor shall the Director or Deputy Director, except with the approval of the Board, hold any office in, or act in any capacity for, any organization, agency, or institution with which the Foundation makes any contract or other arrangement under this Act.

(b) The Director may appoint, with the approval of the Board, a Deputy Director who shall perform such functions as the Director, with the approval of the Board, may prescribe and shall be Acting Director during the absence or disability of the Director or in the event of a vacancy in the Office of the Director.

(c) The Foundation shall not, itself, operate any laboratories or pilot plants.

(d) The members of the Board, and the members of each divisional committee, or special commission, shall receive compensation at the rate of \$25 for each day engaged in the business of the Foundation pursuant to authorization of the Foundation, and shall be allowed travel expenses as authorized by section 5 of the Act of August 2, 1946 (5 U. S. C. 73b-2).

(e) Persons holding other offices in the executive branch of the Federal Government may serve as members of the divisional committees and special commissions, but they shall not receive remuneration for their services as such members during any period for which they receive compensation for their services in such other offices.

(f) Service of an individual as a member of the Board, of a

divisional committee, or of a special commission shall not be considered as service bringing him within the provisions of section 281, 283, or 284 of title 18 of the United States Code or section 190 of the Revised Statutes (5 U. S. C. sec. 99), unless the act of such individual, which by such section is made unlawful when performed by an individual referred to in such section, is with respect to any particular matter which directly involves the Foundation or in which the Foundation is directly interested.

(g) In making contracts or other arrangements for scientific research, the Foundation shall utilize appropriations available therefor in such manner as will in its discretion best realize the objectives of (1) having the work performed by organizations, agencies, and institutions, or individuals in the United States or foreign countries, including Government agencies of the United States and of foreign countries, qualified by training and experience to achieve the results desired, (2) strengthening the research staff of organizations, particularly nonprofit organizations, in the States, Territories, possessions, and the District of Columbia, (3) aiding institutions, agencies, or organizations which, if aided, will advance basic research, and (4) encouraging independent basic research by individuals.

(h) Funds available to any department or agency of the Government for scientific or technical research, or the provision of facilities therefor, shall be available for transfer, with the approval of the head of the department or agency involved, in whole or in part, to the Foundation for such use as is consistent with the purposes for which such funds were provided, and funds so transferred shall be expendable by the Foundation for the purposes for which the transfer was made, and, until such time as an appropriation is made available directly to the Foundation, for general administrative expenses of the Foundation without regard to limitations otherwise applicable to such funds.

(i) The National Roster of Scientific and Specialized Personnel shall be transferred from the United States Employment Service to the Foundation, together with such records and property as have been utilized or are available for use in the administration of such roster as may be determined by the President. The transfer provided for in this subsection shall take effect at such time or times as the President shall direct.

SECURITY PROVISIONS

SEC. 15. (a) The Foundation shall not support any research or development activity in the field of nuclear energy, nor shall it exercise any authority pursuant to section 11 (e) in respect to that field, without first having obtained the concurrence of the Atomic Energy Commission that such activity will not adversely affect the common defense and security. To the extent that such activity involves restricted data as defined in the Atomic Energy Act of 1946 the provisions of that Act regarding the control of the dissemination of restricted data and the security clearance of those individuals to be given access to restricted data shall be applicable. Nothing in this Act shall supersede or modify any provision of the Atomic Energy Act of 1946.

(b) (1) In the case of scientific or technical research activities under this Act in connection with matters relating to the national defense, with respect to which funds have been transferred to the Foundation

from the Department of Defense in accordance with the provisions of section 14 (h) of this Act, the Secretary of Defense shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as he deems necessary.

(2) In the case of scientific research activities under this Act in connection with matters relating to the national defense other than research activities referred to in paragraph (1) of this subsection, the Foundation shall establish such security requirements and safeguards, including restrictions with respect to access to information and property, as it deems necessary.

(3) Any agency of the Government exercising investigatory functions is hereby authorized to make such investigations and reports as may be requested by the Foundation in connection with the enforcement of security requirements and safeguards, including restrictions with respect to access to information and property, established under paragraph (1) or (2) of this subsection.

(c) No employee of the Foundation shall be permitted to have access to information or property with respect to which access restrictions have been established under subsection (b) (1) or (2) until the Federal Bureau of Investigation shall have made an investigation into the character, associations, and loyalty of such individual and shall have reported the findings of said investigation to the Foundation, and the Foundation shall have determined that permitting such individual to have access to such information or property will not endanger the common defense and security.

(d) No part of any funds appropriated or otherwise made available for expenditure by the Foundation under authority of this Act shall be used to make payments under any scholarship or fellowship to any individual unless such individual (1) has executed and filed with the Foundation an affidavit that he does not believe in, and is not a member of and does not support any organization that believes in or teaches, the overthrow of the United States Government by force or violence or by any illegal or unconstitutional methods, and (2) has taken and subscribed to an oath or affirmation in the following form: "I do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America and will support and defend the Constitution and laws of the United States against all its enemies, foreign and domestic." The provisions of section 1001 of title 18, United States Code, shall be applicable with respect to such affidavits.

APPROPRIATIONS

SEC. 16. (a) To enable the Foundation to carry out its powers and duties, there is hereby authorized to be appropriated to the Foundation, out of any money in the Treasury not otherwise appropriated, not to exceed \$500,000 for the fiscal year ending June 30, 1951, and not to exceed \$15,000,000 for each fiscal year thereafter.

(b) Appropriations made pursuant to the authority provided in subsection (a) of this section shall remain available for obligation, for expenditure, or for obligation and expenditure, for such period or periods as may be specified in the Acts making such appropriations.

Approved May 10, 1950.

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